APPENDIXES TO THE REPORT OF THE NATIONAL HIGH LEVEL SCIENTIFIC COMMITTEE FOR PLANT AND ANIMAL INTRODUCTION AND QUARANTINE

INDIA JULY, 1971.

APPENDIX I

(To BE PUBLISHED IN PART I SECTION I OF THE GAZETTE OF INDIA)

No.3(2)/69-AS-III/FC-II
Government of India
Ministry of Food, Agriculture, Community
Development and Cooperation
(Department of Agriculture) (ICAR)

New Delhi, dated the 11 August,1970
20 Sravana 1892

RESOLUTION

No. 3 (2)/69-AS-III/FC-II- In order to consider the suggestions for amending the existing rules and regulations relating to Plant Introduction and Quarantine, and also to suggest the action to be taken on some important recommendations made at the Workshop held in September,1969 on Plant Introduction and Quarantine, the Government of India have decided to set up a high-level National Scientific Committee with immediate effect composed of the following:

1) Dr. J.S. Patel 770, Gotri Road, Baroda.	...	Chairman
2) Dr. Guy B. Baird, Rockefeller Foundation	...	Member
3) Dr. L.S. Negi, Vice-Chancellor, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur.	...	"
4) Dr. L.B. Singn, National Botanical Gardens, Lucknow.	...	"
5) Plant Protection Adviser to the Government of India, New Delhi.	...	"
6) Deputy Director General (CS) I.C.A.R., New Delhi .	...	"

Contd... ..

7) Dr. C.M. Singh, ...
Director, I.V.R.I.,
Izatnagar.

8) Dr. H.R. Arakheri, ...
Director of Agriculture,
Mysore, Bangalore.

9) Chief Controller of Imports
and Exports
or
his representative.

10) Chairman, ... Member
Board of Excise & Customs
or
his representative.

11) Shri H.B. Singh, ... Member-Convener
Head of the Division of
Plant Introduction,
I.A.R.I. New Delhi.

2. The terms of reference of the Committee shall be as follows:-

i) To review and examine in a comprehensive manner the organisational and operational aspects of the existing arrangements for Plant and Animal Introduction and Quarantine including Customs procedures in India, staffing pattern, physical facilities and financial allocation; and

ii) To suggest measures for rectifying the existing deficiencies for streamlining and strengthening the arrangements in commensurate with the needs and importance of the work.

3. The Committee should submit its recommendations within a period of six months from the date of its constitution. The I.C.A.R. would provide secretariat to the Committee and bear such expenditure involved in the movement of the Members in connection with the Committee as cannot be met by the Department concerned.

Sd/-
(T.P. SINGH)
SECRETARY TO THE GOVERNMENT OF INDIA.

Contd...

ORDER

Ordered that a copy of the Resolution be forwarded to the Chairman and Members of the high-level National Scientific Committee. All Ministries Departments of the Government of India, the Prime Minister's Secretariat, the President's Secretariat, Planning Commission, Cabinet Secretariat, Comptroller and Auditor General of India, Revenue Secretaries to the State Governments/ Union Territories, the Rajya Sabha Secretriat, Lok Sabha Secretariat and Parliament Library.

Ordered also that the Resolution be published in the Gazette of India for general information.

Sd/-
(T.P. SINGH)
SECRETARY TO THE GOVERNMENT OF INDIA.

The Manager,
Gazette of India,
Government of India Press,
FARIDABAD.

Copy forwarded to:-

1. Director of All the Research Institutes.
2. All Officers and Sections in the I.C.A.R.
3. Head, Plant Introduction Division, I.A.R.I. New Delhi.
4. Director of Publicity, I.C.A.R., New Delhi.

Sd/-
(JASWANT SINGH)
UNDER SECRETARY.

APPENDIX II

INDIAN COUNCIL OF AGRICULTURAL RESEARCH

RECOMMENDATIONS MADE IN THE PLENARY SESSION OF THE WORKSHOP ON PLANT INTRODUCTION AND PLANT QUARANTINE FROM SEPTEMBER 15-17, 1969.

This Workshop, convened by the Indian Council of Agricultural Research from September 15-17, 1969 reviewed the position with regard to Plant Introduction and Plant Quarantine activities in the country. The review took also into consideration the position relating to introduction and quarantine arrangements for animals, including insects. The Council is grateful to the distinguished scientists from the various agencies connected with plant and animal introduction and quarantine for their presence and participation. Special mention must be made here of the presence and contribution made by Mr. H.L. Hyland, Leader, Plant Introduction Investigation, Agriculture Research Service of the United States Department of Agriculture. The Scientists from within the country included those from the I.C.A.R., the IARI and some other Agricultural Research Institutes, the Agricultural Universities, the Forest Research Institute, the Botanical Survey of India, and the Animal Husbandry and Plant Quarantine departments of the Ministry of Food and Agriculture. A paper dealing with the present position regarding animal quarantine in India and future needs in this direction was also read and discussed.

As a result of three days deliberations, the following recommendations are made for consideration at this Plenary Session.

1. Reviewing the position with regard to Plant and Animal Introduction and Quarantine in the country, the workshop recognised that this activity was vital to the progress of plant and animal improvement in the country, and thereby to the progress in the production of agricultural, animal, forestry and other biological products. For example, it was recognised that the rapid strides that have been made especially in recent years, in the improve-

ment of certain category of crops like cereals and millets could not have been made without importation of a considerable volume of plant wealth from various countries of the world and its exploitation and utilisation in Indian plant improvement programmes. The Workshop recognised that the activity has so far covered only a portion of the field and much remains to be done in other agricultural crops, such as pulses, oilseeds and plantation crops including tea, coffee, rubber and forestry.

2. It was appreciated by all assembled that since plant and animal introduction and quarantine are of great national importance, it was necessary that the work being done in this field by the various national organisations, be more fully strengthened and coordinated. It was also recognised that plant introduction and quarantine needs to have a very strong research and educational base. Thus, for instance, it was agreed that plant quarantine activity should not include only enforcement of regulations, but it should also include research, documentation, policy matters and publicity, including education of the general public.

3. The magnitude of national loss due to inadvertant introduction of pests and diseases, including obnoxious weeds, can be exemplified by the following instances.

a) Fruit industry in the country has been seriously threatened by the introduction, some years ago, of the San-Jose Scale which infests apples and other fruits. Efforts to control this pest is costing the nation~~al~~ at least Rs. 8 lakh annually by way of spray materials alone.

b) The bunchy-top disease of banana which was introduced into this country during the 1940's is causing an annual~~s~~ loss of Rs. 3 crores.

c) The recent introductions of the golden nematode of potato in the Nilgiris and of the wart disease of potato in the Darjeeling hills area is causing a loss of several lakhs of rupees annually to the potato industry in India.

d) The lantana weed, the water hyacinth and the introduction in recent years of a species of Parthenium are instances of national problems created by introductions of obnoxious weeds from other countries.

e) The recent introduction of the acarine disease of honey bees through the importation of foreign stocks is posing a serious threat to bee culture in the country.

f) In the case of animals, the need for introduction of foreign stocks under proper health certificate and quarantine has been recognised. However, failures in the implementation of the necessary measures have resulted in colossal losses to the animal wealth, as for instance, in the case of the African horse sickness. Similarly, serious losses have been incurred through the diseases of poultry birds caused by improper introduction.

4. In view of the fact that the importation of plants and animals will necessarily take place on an ever-increasing scale in the immediate and the near future, there is need to view this problem from the national angle and to streamline the organisational set up and procedures to meet the national objectives.

5. The present set up

The work of plant and animal introduction and quarantine in India is currently being carried out under the following authorised agencies although it was recognised that some unauthorised agencies and individuals were also carrying on this activity.

i) The Division of Plant Introduction at the Indian Agricultural Research Institute, has, as per decisions taken some years ago by the Government of India, been charged with the work of introduction of agri-horticultural crops. The Forest Research Institute at Dehra Dun looks after the introduction, evaluation and control of exotic species and varieties important to forestry. The Botanical Survey of India deals with the introduction and exploration of plants not covered by the above-named organisations.

ii) The responsibility for plant quarantine at present vests with the Directorate of Plant Protection, Quarantine and Storage in the Ministry of Food & Agriculture. The operational part of plant quarantine is regulated under the Destructive Insects and Pests Act of 1914 and the rules made thereunder as modified from time to time. The plant quarantine organisation is primarily concerned with the enforcement of the various regulations.

iii) The work of animal introduction and quarantine is operated at the National Level, under a separate Livestock Importation Act of 1898 as further amended in 1953, by the Animal Husbandry Division of the Union Ministry of Food and Agriculture.

6. . Identification of problem areas.

Despite the above arrangements for plant and animal introduction, there are a number of problems which need urgent attention and consideration. They are:-

i) The Destructive Insects and Pests Act and its rules need a certain amount of revision even today. Thus, for instance, seeds, excepting about a dozen specified kinds, did not so far come within the purview of the DIP Act and Rules. This has resulted in an uncontrolled and multi-channelled introduction of seed material from abroad by institutions and private individuals. The importation of seeds as samples through letters and gift parcels have also not so far come under the purview of these regulations. The Department of Agriculture of the Government of India is reported to have taken this into consideration and have formulated amendments to the existing Rules. The Workshop was not in a position to go into the details of the proposed amendments. It is, therefore, recommended that an ad hoc Committee of scientists and administrators connected with this problem be set up urgently to examine the proposed revisions.

ii) As mentioned earlier, the plant quarantine activity under the Directorate of Plant Protection, Qurantine and Storage has mainly been confined to routine enforcement of the DIP Act and its Rules. It is recommended that the organisational set up may be reviewed with a view to integrating together the enforcement, the research and the educational aspects of plant introduction and quarantine. Research is needed urgently to develop a quarantine technology on sound scientific principles. Research in this direction should include not only early detection of the pests and diseases that may be introduced but also suggest measures for effective disinfestation or disinfection and control of the introduced material. The research aspects of quarantine technology would necessarily include expert knowledge of pests and diseases occurring in the various parts of the world through the study of literature and surveys so that the problems of introduction of dangerous pests and diseases could be anticipated in advance. In addition, it is also necessary to make concerted efforts to educate all concerned including the general public and create civic consciousness among them with regard to the inherent dangers of import of seeds and other plant propagation materials through personal baggage and correspondence and other means.

iii) There are instances where pests and disease introduced accidentally have spread from one focal point to other areas in the country. It is necessary to ensure that such a spread is either nipped in the bud, or that further spread of pests and diseases, if taking place, is prevented by authorising the quarantine authorities to do so and by augmenting their facilities for this work.

iv) The present arrangement for inter-state movement of infected plant and plant materials is far from satisfactory. Even though this is covered under the Destructive Insects and Pests Act of 1914, the enforcement measures adopted so far have been against newly introduced exotic pests only and not for exotic pests which may have been introduced much earlier or pests and diseases already occuring in the country in limited areas. The question whether this problem could be remedied under the present regulations or there is need to amend the existing regulations may be examined.

v) A National Accession Register of all plant and animal introductions, made by the various authorised agencies, should be maintained Centrally.

vi) Although, there are some arrangements at present by which the plant quarantine organisation can consult scientists and scientific institutions with regard to problems arising from plant importation, it was felt necessary to place the arrangements on a formal basis and to review the orgnisational set up in such a manner as to ensure that the work is carried out effectively and speedily taking into consideration all the scientific and practical aspects.

vii) The staffing pattern, the physical facilities and the financial allocations at present available to the Plant Quarantine Organisations of the Ministry of Food & Agriculture, to the Plant Introduction Division at IARI, the plant introduction and Quarantine Organisations at the FRI and the Botanical Survey of India are insufficient and are incommensurate with the needs and importance of the work. It is, therefore, recommended that these arrangements may be reviewed with the least possible delay, in order to make necessary modification and provide for their strengthening.

viii) From an account of the arrangements regarding animal introduction and quarantine, including pets, it appeared that the arrangements so far have not been adequate in many ways. For instance, physical facilities for quarantining animals were reported to be woefully inadequate. The Group was informed that necessary measures in this direction are being taken by the Union Ministry of Food& Agriculture. It was, however, clear that the position with regard to zoo animals and wild life was not satisfactory and needs to be reviewed in detail.

ix) Oftentimes, useful plant material meant for introduction has to be destroyed when found infected/infested with disease or pests during post quarantine checking. The policy should be not to destroy such material as far as possible, but to see that the valuable introductions are allowed to be made and salvaged through scientific supervision and under strict quarantine conditions at the post-entry stage. A mechanism for achieving this objective, through the provision of off-shore island facilities or through formal arrangements with Central Research Institutes, All India Crop Improvment Projects, Agricultural Universities, etc., may be examined.

x) It is suggested that a high-level national scientific committee, including a few selected scientists from other countries, if necessary , be constituted urgently to review and examine in a comprehensive manner ~~and~~ the organisational and operational aspects of plant and animal introduction and quarantine in India including customs procedures, and to make recommendations for gearing up the work or for rectifying the deficiencies.

APPENDIX III

List of scientists and adminstrators who attended one or more meetings arranged by the National Scientific Committee for Plant and Animal Introduction and Quarantine during 1970-71.

I. Chairman:

1. Dr. J.S. Patel, 770 Gotri Road, :Baroda, (Gujarat).

II. Members:

2. Dr. Guy B. Baird, Field Director, The Rockefeller Foundation, 17, Kautilya Marg, Chanakyapuri, N. Delhi-11.
3. Dr. H.R. Arakeri, Member, National Commission on Agriculture, Vigyan Bhavan Annexe, New Delhi-11.
4. Dr. S.N. Banerjee, Plant Protection Advisor to the Government of India, Directorate of Plant Protection Quarantine and Storage, Shastri Bhavan, New Delhi-1
5. Dr. T.R. Mehta, Deputy Director General (CS), Indian Council of Agricultural Research, Krishi Bhavan, New Delhi-1
6. Dr. L.S. Negi, Vice Chancellor, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur (M.P.)
7. Dr. L.B. Singh, Director, National Botanic Gardens, Lucknow, (U.P.)
8. Dr. C.M. Singh, Director of Indian Veternary Research Institute, Izatnagar, (U.P.).
9. Chief Controller of Imports and Exports, Ministry of Foreign Trade and Supply, Udyog Bhavan, Maulana Azad Road, New Delhi, represented by Sh. T.M.B. Nedumgadi, Jt. Chief Controller of Imports and Exports;

Sh. S.R. Ghosh, Dy. Chief Controller of Imports and Exports, or Sh. J. Shankar, Dy. Chief Controller of Imports and Exports.

10. 10. Chairman (Shri D.P. Anand), Central Board of Excise and Customs, North Block, Central Secretariat, New Delhi-1, represented by Shri V.J. Bakre, Chief Chemist, Central Revenues Control Laboratory (Ministry of Finance), New Delhi-12, who some times sent his colleagues: Shri D.R. Gupta , Senior Chemist Examiner or Shri S.K. Mehrotra, Chemical Examiner (Customs).

III. Convener-Member:

11. Dr. H.B. Singh, Head of the Division of Plant Introduction, Indian Agricultural Research Institute, New Delhi-12.

IV. Invitees:

12. Secretary to Government of India, Chairman and Director General, Post and Telegraph Board, Dak Tar Bhavan, Parliament Street, New Delhi.1, represented by Sh. M.S. Raghawan, Assistant Director General, Postal Technical, Sh. K.K. Deenadayalan, Director, Postal Technical or Smt. S. Chaurasia, Director, Postal Technical.

13. Department of Revenue and Insurance, Government of India, Ministry of Finance, North Block, Central Secretariat, New Delhi.1 represented by Sh. P.K. Kapoor, Under Secretary, Customs VI Section.

14. Sh. P.L. Sinai, Director (Coordination), Ministry of External Affairs, South Block, Central Secreteriat, New Delhi-11 represented by Under Secretaries Sh. V.P. Singh, Sh. B. Swaraj or Sh. P.A.V. Pillay.

15. Sh. P.L. Renjhen, Assistant Director (PQ), Plant Protection Directorate, N.H.IV, Faridabad (Haryana).

16. Dr. P.R. Nilakantan, Deputy Commissioner (LH), Ministry of Food.

Agriculture, Community Development & Cooperation, Krishi Bhavan, New Delhi-1.

17. Dr. K.G. Mahendru, Assistant Commissioner (AQ), Ministry of Food, Agriculture, Cooperation and Community Development, Krishi Bhavan, New Delhi-1.

18. Dr. P.R. Mehta, Pesticides Association of India, 20- Ring Road, Lajpat Nagar IV, New Delhi-24.

19. Sh. K.T. Satarwala, General Manager, Indian Airlines, 113, Gurdwara Rakab Ganj Road, New Delhi-1 represented by Sh. K.C. Kirpalani, Dy. Commercial Manager (C).

20. Sh. R.K. Narpat Singh, Regional Manager, Air India, 1 Scindia House, Janpath, New Delhi-1 represented by Sh. B.L. Parashara, District Cargo Manager, Air India, M-38, 1, Connaught Cirsus, New Delhi.

21. Dr. J.E. Douglas, Seed Production Specialist, The Rockefeller Foundation, 17, Kautilya Marg, Chankyapuri, New Delhi-11.

22. Dr. B.K. Bakshi, Head, Biological Sciences, Forest Research Institute, Dehra Dun (U.P.)

23. Dr. D.N. Shrivastava, Deputy Director General (Plant Protection), Indian Council of Agricultural Research, Krishi Bhavan, New Delhi-1.

24. Dr. S. Pradhan, Head, Division of Entomology, Indian Agricultural Research Institute, New Delhi.12.

25. Dr. S.P. Raychaudhari, Head, Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi.12

26. Dr. A.R. Seshadri, Head, Division of Nematology, Indian Agricultural Research Institute, New Delhi.12.

27. Dr. J.M. Lal, Assistant Commissioner (LH), Ministry of Food, Agriculture, Community Development and Cooperation, Krishi Bhavan, New Delhi.1.

28. Dr. A.C. Mathur, Asstt. Director General (AH), Indian Council of Agricultural Research, Krishi Bhavan, New Delhi-1

29. Dr. Sharma, College of Veterinary Sciences, Hissar, (Haryana).

30. Dr. D.R. Marwaha, Director of Animal Husbandary Department, Srinagar, Jammu & Kashmir State.

31. Sh. P.K. Kapoor, Under Secretary, Customs VI Section, Department of Revenue & Insurance, Ministry of Finance, North Block 1, New Delhi.

32. Smt. S.L. Singla, Director (SLS), Ministry of Foreign Trade, Udyog Bhavan, New Delhi.

V. Others:

33. Dr. K.D. Paharia, Directorate of Plant Protection, Quarantine and Storage, New Delhi.

34. Sh. S.P. Chibber, Quarantine Officer (Animals), Department of Agriculture, Krishi Bhavan, New Delhi-1

35. Sh. T.P. Sriharan, Scientist, Indian Council of Agricultural Research, Krishi Bhavan, New Delhi.1.

36. Dr. S.K. Prasad, Professor of Nematology, Indian Agricultural Research Institute, New Delhi-12.

37. Sh. M.W. Hardas, Senior Plant Introduction Officer, Division of Plant Introduction, Indian Agricultural Research Institute, New Delhi-12.

APPENDIX IV ·

Plant Quarantine Service in India

We all know that while travelling abroad we have to obtain an international health certificate on the prescribed form. The traveller is allowed entry into the country only after he is kept in quarantine for a specified period and found to be free from notified diseases in case he is unable to produce the health certificate. The necessity of these travel documents is generally accepted and the propriety of such regulations is not questioned. The health certificates are insisted upon to prevent the spread of dangerous diseases from one country to another. The existence of similar regulations in relation to the movement of plants and plant materials is not so widely known in our country. With the improvements in the speed and modes of transport and communication that have taken place all over the world, the volume of international travel and trade has increased enormously. Every country is thus becoming more and more exposed to the danger of infiltration of known and unknown, potentially or actually dangerous pests and diseases affecting not only human beings and animals but also the different kinds of plant materials which provide food, fibre and other valuable commodities or articles of economic importance which contribute to progress and prosperity. There are several well/authenticated examples of major pests having invaded new areas and become established in them. The European corn borer and the Gypsy moth (from Europe) and the pink boll worm and khapra beetle (from India) are now causing huge losses to agriculture and forestry in U.S.A. Colorado potato beetle, a native of USA, is a menace to potato cultivation in many parts of Europe. *Lantana* and water hyacinth weeds from South America are hampering agricultural production in India. Once a pest gets a strong foothold in another country or territory it is extremely difficult to eradicate it to the last individual. The bunchy top disease of banana, caused by a virus which is transmitted by an insect was introduced into India from Ceylon in 1940 and by 1943 it had spread to a few hundred acres in Kottayam in Kerala. Now it occurs practically all over Kerala and has also been reported from localised areas in Madras, Orissa, West Bengal and Assam. The wart disease of potato was first noticed in Darjeeling Distrct of West Bengal in 1952, having been introduced with seed potatoes imported from Holland. By 1962 the disease spread over nearly 2500 acres and has recently been reported from Nepal as well. The Golden nematode attacking potato was first recorded in the Nilgiris in 1961 and a recent survey reports its presence from over 2,000 acres in and around Ootacamund.

Three other introduced insect pests have been with us for some decades now and have spread to much larger areas: San Jose scale of apple occurs in Jammu and Kashmir, Punjab Hills, Himachal Pradesh, Uttar Pradesh, West Bengal, Assam, Orissa and Tamil Nadu. It has a host plant ranging over 200 varieties of fruit trees, shrubs and ornamental plants. The wooly aphid, another serious apple pest, is present in Jammu & Kashmir, Punjab, Himachal Pradesh, Uttar Pradesh and Tamil Nadu. With a view to covering large area with exotic varieties of crops with high yielding potential in a short time large quantities of seeds are being imported. The enthusiasm for bringing in new varieties should, however, be coupled with the precautions that need to be taken to ensure that such dreaded insect pests and plant diseases are not introduced along with. It may be mentioned that wheat seeds are capable of carrying any of the 55 different bacterial and fungal diseases, some of which may not even be confined to wheat. Potato seed from Europe may carry virus X and virus Y in latent form and the two viruses do not affect the potato plant but are capable of multiplying virulently on tobacco and wipe out the same.

It would therefore be appreciated that no progressive country can afford to allow the unrestricted importation of all plants and plant materials or their unrestricted movement from one area to another within its own territtory. Plant pests and diseases may be brought in and propagated through nursery stalks, cuttings, bulbs, tubers, roots, seeds, or through various commodities like fruits, vegetables, nuts, grains, leaves, straw, etc. Measures to prevent the introduction and spread of such pests and disease are generally referred to as plant quarantine measures.

In human, animal and plant quarantine, the idea is to empower some public authority to establish barriers against the dissemination of injurious pests. Plant Quarantine is to be regarded as the utilisation of knowledge by legally constituted authority to prevent the entry or spread of injurious crop pests as a service in the public interest.

HISTORY OF PLANT QUARANTINE:

The first plant quarantine law was promulgated in Rouen, France in 1860 to suppress and prevent the spread of common barberry, the alternate host plant of wheat rust. Among other countries, the first few to establish plant quarantine services were Germany, France, Australia and U.S.A. One of the first attempts at the prevention of insect damage by legislation to provide for large scale community efforts against grasshopper hordes and again in 1881, a California Pest Act was passed to prevent the spread of the grape Phylloxera. Ever since then, more countries have become aware of the necessity and importance of Plant quarantine for the well-being of their agriculture. In India, legislative measures against crop pests and diseases was initiated under the Destructive Insects and Pests Act of 1914. Prior to establishment of the Directorate of Plant Protection Quarantine and Storage in 1946 under the Ministry of Food and Agriculture, the various rules and regulations of the D.I.P. Act were enforced by the Customs Department. The transference of this highly technical work to the former has been in the best interest of the agricultural economy of the country.

INTERNATIONAL PLANT PROTECTION CONVENTION:

The first effort towards international agreement on Plant Protection was made in 1914 under the auspices of the International Institute of Agriculture in Rome. This was followed by an International Convention of Plant Protection by over 50 member countries of the Institute in 1919 and certain agreements regarding the issue and acceptance of phytosanitary certificates were finalised. The project received a set back due to Second World War and was later on revived by the F.A.O. Appreciating the need for Conventinn to strengthen such international efforts, the F.A.O. sponsored an International Plant Protection Convention, in 1951. Under article 3 of that Convention, the Plant Protection Agreement for South East Asia and Pacific Region was sponsored by F.A.O. in 1956 and India became a party to this agreement in the same year along with Australia, Ceylon, U.K., Laos, Netherlands, Indonasia, Portugal and Vietnam. Our Government agreed to adopt legislative measures specified in the Convention for the purpose of securing common and effective action to prevent the introduction and spread of pests and diseases of plant~~s~~s and plant products and to promote measures for their control and also agreed to assume all responsibilities for the fulfilment within its territories of all requirements under the Convention. It was agreed that the Government shall make provision as soon as possible and to the best of its ability, for

(a) AN OFFICIAL PLANT PROTECTION ORGANISATION, WITH THE FOLLOWING MAIN FUNCTIONS:

(i) The inspection of growing plants, of a~~g~~reas under cultivation (including fie~~d~~ld, plantations, nurseries, gardens and green-houses), and of plant~~s~~s and plant products in storage and in transportation particularly with the object of reporting the existence, outbreak and spread of plant diseases and pests and of controlling those pests and disease;

(ii) the inspection of consignments of plants and plant products moving in international traffic, and, as far as practicable, the inspection consignments of other articles or commodities moving in international traffic under conditions where they may act incidentally as carriers of pests and diseases of plants and plant products, and the inspection and supervision of storage and transportation facilities of all kinds involved in international traffic whether of plants and plant products or other commodities, particularly with the object of preventing the dissemination across national boundaries of pests and diseases of plants and plant products;

(iii) the disinfestation or disinfection of consignments of plants and plant products moving in international traffic, and their containers, storage places or transportation facilities of all kinds employed;

(iv) the issue of certificates relating to phytosanitary condition and origin of consignments of plants and plant products (hereinafter referred to as 'phytosanitary certificate');

(b) THE DISTRIBUTION OF INFORMATION WITHIN THE COUNTRY REGARDING THE PESTS AND DISEASES OF PLANTS AND PLANT PRODUCTS AND THE MEANS OF THEIR PREVENTION AND CONTROL;

(c) RESEARCH AND INVESTIGATION IN THE FIELD OF PLANT PROTECTION.

(2) Shall submit a description of the scope of its national organisation for plant protection and all changes in such organisations to the Director General of F.A.O., who shall circulate such information to all contracting Governments.

With the aim of preventing the introduction of diseases and pests of plants into the country, it was agreed that our Government shall have full authority to regulate the entry of plants and plant products and to this end, the Government may;

(a) PRESCRIBE RESTRICTIONS OR REQUIREMENTS CONCERNING THE IMPORTATION OF PLANTS OR PLANT PRODUCTS;

(b) PROHIBIT THE IMPORTATION OF PARTICULAR PLANTS OR PLANT PRODUCTS, OR PARTICULAR CONSIGNMENTS OF PLANTS OR PLANT PRODUCTS:

(c) INSPECT OR DETAIN PARTICULAR CONSIGNMENTS OF PLANTS OR PLANT PRODUCTS;

(d) TREAT, DESTROY OR REFUSE ENTRY TO PARTICULAR CONSIGNMENTS OF PLANTS OR PLANT PRODUCTS, OR REQUIRE SUCH CONSIGNMENTS TO BE TREATED OR DESTROYED.

DESTRUCTIVE INSECTS AND PESTS ACT OF 1914 (II of 1914)

The Government of India had taken legislative steps as far back as 1914 for preventing the introduction of pests and diseases into India. An Act known as the Destructive Insects and Pests Act, 1914 (II of 1914) (D.I.P. Act) was passed by the Governor General of India in Council in the 3rd February, 1914, under this Act rules governing the import and movement of plants and plant materials, insects and fungi are framed.

The act provides:

(1) It authorised the Central Government to prohibit or regulate the import into India or any part thereof or any specific place therein, or any article or class of articles.

(2) It authorises the officers of the Customs at every port to operate, as if the rules under the D.I.P. Act are made under the Sea Customs Act.

(3) It authorises the Central Government to prohibit or regulate the export from a State or the transport from one State to another State in India of any plants and plant materials, diseases or insects, likely to cause infection or infestation. It also authorises the control of transport and carriage and gives power to prescribe the nature of documents to accompany such plants and plant materials and articles.

(4) It authorises the State Governments to make rules for the detention, inspection, disinfection or destruction of any insect or class of insects or of any artcile or class of articles, in respect of which the Central Government have issued notifications. It also authorises the State Governments for regulating the powers and duties of the officer whom it may appoint in this behalf.

(5) It provides penalty for persons who knowningly contravene the rules and regulations issued under the Act.

(6) It also protects the persons from any suit or prosecution or other legal proceedings for anything in good faith done or intended to be done under the Act.

PLANT QUARANTINE ORGANISATION IN INDIA

In India, plant quarantine work at the major seaports and at airports, through which the international trade and traffic passes, is being conducted by the Central Government and at the minor ports by the State Governments. Facilities exist for inspection and treatment of plants and plant materials at plant quarantine stations at the seaports of Bombay, Calcutta, Cochin, Madras, Rameshwarm, Tuticorin, Visakhapatnam and Bhavnagar and at the airports of Amritsar, Bombay, Tiruchirapally, Calcutta, Madras and New Delhi and land frontiers of Hussainiwala (Ferozepur) & Sukhiapokri (Darjeeling). The station at Bombay sea-port was started in 1949, that at Madras in 1950. The Station at Cochin seaport was established in 1955 and those at Calcutta and Visakhapatnam in 1956 and 1957 respectively. Very recently the airport at Tiruchirapalli has been declared as the port of entry for plants and plant materials and facilities for receiving and fumigating American and West Indies cotton bales have been extended at Bhavanagar & Tuticorin seaport.

The fruits imported from Afghanistan are to be inspected and fumigated at Plant Quarantine & Fumigation Station at Indo Pakistan land frontiers of Hussainiwalla (Ferozepur) and the potatoes imported from Nepal are to be inspected at Indo-Nepal border plant quarantine station at Sukhiapokri.

The fumigation of American and West Indies cotton (to prevent the entry of boll weevil) which is an important item of work of many of these stations was taken up at Bombay in 1953, (undertaken till 1952 by the Indian General Cotton Committee), at Madras in 1950, at Cochin in 1955 and at Calcutta in 1961. To date, a few million bales have been fumigated and the pest has been kept out.

Most of the existing sea port stations have each an Entomologist and a plant Pathologist and the necessary supporting trained staff. The head of the organisation is the Plant Protection Adviser to the Government of India at New Delhi.

WORKING

All Plant Quarantine laws aim at the prevention of the introduction and/or spread of pests and diseases to new areas and therefore measures adopted to achieve this object have a direct relation to the type of insect or disease involved.

In general, all plants and plant materials have to be imported only through the prescribed ports of entry, namely, Bombay, Calcutta, Cochin, Bhavnagar, Rameshwaram, Madras, Nagapatnam, Tuticorin and Visakhapatnam and must undergo inspection and, if necessary, treatment. They must also be accompanied by a phytosanitary certificate. Further, the import of plants by air is possible only through a permit issued by the Plant Protection Adviser to the Government of India. Consignments of plants and plant materials imported by air have to be accompanied by a special permit issued by the Plant Protection Adviser to the Government of India. Along with this permit a green and orange tag is issued. The permit and the tag are to be forwarded to the consigner. The phytosanitary certificate, the permit and the tag have to be sent with the consignments. The consignments are quickly identified by means of

On account of certain pests and diseases being native to or prevalent in a particular country and the possibilities of their infiltration into India being more, the host material from these countries have variously restricted entry and is subject to closer scrutiny. A list of countries, from where the import of certain commodities is generally prohibited, is as follows:-

Africa	Cocoa & other *Theobroma* spp. (plant & seed)
Argentina	Sunflower
America	Rubber seed & plants
Australia	Sugarcane
Ceylon	Cocoa & other *Theobroma* spp. (plant & seed)
Fiji Island	Sugarcane
New Guinea	Sugarcane
Peru	Sunflower
Philippine Island	Sugarcane
West Indies	Cocoa & other *Theobroma* spp. (plant &seed), rubber seed & plant and sugarcane.

Other countries Flax seed, coffee plant, bean and raw seed, etc.

RESTRICTIONS PERTAINING TO THE COMMODITY

Commodities that are subject to various restrictions are:

Plant and parts of plants of the genera, *Citrus* and *Allium*, coffee, cotton, potato, rubber, sugarcane, unmanufactured tobacco and seeds of berseem, cocoa and sunflower.

RESTRICTIONS PERTAINING TO THE MANNER OF IMPORT

Under this category can be grouped and the various restrictions or requirements pertaining to transport, port of entry and disinfection or disinfestation of plants and plant materials being imported, and various documents, which shall accompany them.

Air transport of plants may carry dreaded pests in a viable condition, and so, usually import of plants by air is discouraged and if it has to be done by the general public it can only be after the Plant Protection Adviser to the Government of India has permitted it. Tobacco cannot be imported by air in excess of 10 kilograms. Cotton seed, berseem and flax seeds and sugar cane cannot come by letter post. Special certificates declaring that the consignment is free from certain specified diseases and pests, should accompany cocoa, potato, citrus, onion (Allium sp.) etc.

American and West Indies cotton can be permitted entry after fumigation, with a prescribed gas, at prescribed ports of entry.

DOMESTIC QUARANTINE

A study of the fauna and flora of any country would show that some of the pests and diseases found are alien to that country and indigenous to another country. Inspite of the best precautions taken and stringent measures of quarantine applied, even the most advanced countries have not been able at times, to prevent the entry of pests. In such cases man has taken recourse to domestic quarantine. Immediately a foreign pest is noticed, the affected area is cordoned off and measures taken to kill or eradicate the nucleus of infestation and stop the further spread of the pest.

In India, the Directorate of Plant Protection, Quarantine and Storage takes necessary steps to regulate the inter-state movement of plants and plant materials in order to prevent the further spread of destructive insects and diseases that have already entered the country.

According to notifications, issued under the DIP Act, an introduced pest, for example San Jose Scale, which attacks deciduous fruit trees, has been declared a pest in the State of Assam, Madras, Punjab, U.P. and West Bengal and various specified host materials, which come out of these States have to be accompanied by a certificate of health from the States Entomologist or other competent authorities that the plants are free from it. Similarly notifications have been issued to prevent the spread of the fluted scale which has been declared a pest in Madras, Mysore and Kerala, Quarantine regulations have also been issued against the spread of the bunchy top disease of banana from Orissa, West Bengal and Kerala and for the potato wart disease from West Bengal. to other States ,and Territories of India.

SOME OF THE IMPORTANT INTERCEPTIONS AT PLANT QUARANTINE AND FUMIGATION STATION (MADRAS ONLY)

It may be worthwhile to mention here that at Madras Seaport, cysts of Golden Nematode (Heterodera rostochiensis) as well as Beetroot Nematode have been intercepted during 1965-1968 from Seed Potato consignments imported from Scotland, Northern Ireland and West Germany. 122.5 metric tons of seed potato imported from these countries found infested with Golden Nematode cysts were destroyed by dumping in the open sea about 8 miles from the Madras Harbour. As many as 41 consignments of raw coffee seeds very heavily infested with coffee Berry Borer imported during the last 5 years through Rameshwaram Seaport were confiscated and destroyed. Beetroot Nematode, one cyst of which intercepted in 1965 at Madras Seaport if introduced into our country would have caused a havoc for vegetable crops, since this nematode has got a very wide host range and has not so far been recorded in India. We are in a fortunate position to earn quite a large sum of foreign exchange by exporting coffee seeds to various countries. The Coffee Berry Borer (Hypothenemus hampeu) which had been intercepted in live condition on numerous occasions at Rameshwaram Seaport, if introduced would have wiped out our Coffee plantations entirely in the States of Tamil Nadu, Kerala and Mysore.

PROCEDURE ADOPTED FOR INSPECTION OF IMPORTED PLANT & PLANT MATERIALS.

Cotton boll Weevil (Anthonomus grandis) is estimated to cause an annual loss of about Rs. 500 crores in U.S.A. In order to prevent the intduction into our country, import of unginned cotton has [redacted]ted as per Para No. 14(i) of the Notification No: 320-35-A dated the 20th July,1936 (corrected upto March,1967) under the D.I.P. Act, 1914. Import of ginned cotton is restricted through the Seaports of Bhavnagar, Bombay, Calcutta, Cochin, Madras and Tuticorin. Import of Cotton seeds and cotton samples is permitted through the Seaports and Airports of Bombay, Calcutta and Madras and the Airport of New Delhi (Palam Airport) and the Seaport of Bhavnagar as per Para 14(ii) of the Notification No. as mentioned above. The American cotton ;bales on landing in any of the recognised ports of entry, are fumigated with HCN gas by the Plant Quarantine Staff. The usual dosages of HCN used for fumigating the bales is at the rate of 3/4 to 1 lb./1000 cu. feet. After 24 hours exposure, the degassing is carried out be the Technical Staff and the gas free certificate is issued after 48 hours.

II IMPORT OF PLANTS/PLANT MATERIALS BY AIR

The plants and plant materials are generally imported into India by air in the following manner and the particulars of consignment imported, the details of examination, treatment and recommendation given are entered in the Plant Inspection Register maintained at the Airport (Annexure IX).

A. As Accompanied Baggage (Plants, fruits intended for consumptions, cut-flowers, dried spices, etc.)

B. As Air Cargo (Rubber seeds, Rubber....wood, Strawberry plants, Rose plants, etc.

C. As Air post Parcel

D. Miscellaneous Cargo

After thorough inspection and examination of the baggage, the Customs Officer in case he finds any plants/plant materials, refers the same to the Plant Quarantine Staff for necessary advice and recommendations. The receipt is acknowledged by the Plant Quarantine Staff. After thorough examination of Plants/Plant materials and treatment/fumigation, if necessary recommendations are sent back to the Customs.

Air post parcel are generally referred to the Quarantine staff through the Foreign Post Office by the Principal Postal Appraiser. These include Rose Plants, vegetable and Horticultural seeds, flower bulbs, etc. These are recommended for release after inspection and if necessary treatment in case found to be free from exotic insect pests and diseases and accompanied by relevant documents as required under rules.

Miscellaneous cargo include live beneficial insects imported by the Commonwealth Institute of Biological Control, Bangalore.

The International Aircraft are also inspected for plants and plant materials left over in the cabin, storeholds, etc.

SOME OF THE GENERAL METHODS OF TREATMENT OF PLANTS/ PLANT MATERIALS IN VOGUE AT PLANT QUARANTINE & FUMIGATION STATION:

When the above formalities regarding inspection are over, the consignment, if considered necessary, is given disinfestation treatment. The prevalent treatment is fumigation. This is generally done by methyl bromide in chambers especially made of different capacities, provided at different airports. The common dosage of the fumigant is 2 lb. per 1,000 cubic feet of space for 1 to 2 hours. For cotton and tobacco, it is increased to 3 lb. per thousand cubic feet and the time exposure may also be increased. When bulbs, cotton or tobacco samples or things of similar nature are received, vaccum fumigation is resorted to. The exposure required for vaccum fumigation is about one tenth the time required for atmosphere fumigation. The former is carried on, in special chambers (i.e. 10 cubic feet, 100 cubic feet and 350 /cubit feet etc.) fitted with electric motors, vaccum recorder and other devices required for creating and maintaining a vacuum. Vacuum fumigation ensures deeper penetration of the gas into the material.

In case of certain commodities such as Chrysanthemum plants which are susceptible to methyl bromide fumigation, other methods are adopted to, i.e., treating them with a weak solution 0.30% to 0.40% parathion or dusting with BHC (5% to 10%). Such treatment is also resorted to in case of tender flowers, which are likely to be affected by methyl bromide fumigation. There is no hard and fast rule that each and every consignment should be fumigated but it depends upon the individual consignment, its nature and the decision arrived at, after detailed inspection.

If imported plants or plant materials are found to be infected with diseases, various types of treatment with fungicides are given. As a rule soil should not be brought along with the plants but if it comes, it should be carefully removed, properly treated and discarded. Following are some of the treatments employed at our Plant Quarantine Stations in India:-

(1) Copper fungicide treatment- As copper is corrosive in nature, it is used for hard plant parts as twigs with barks, i.e. rose twigs etc. The strength of the solution generally employed is 1% in aqueous solution. After treatment, the plants should be thoroughly washed with water.

(2) Mercuric chloride dip:- Mercuric chloride is a good surface sterilizer but it is used for harder plant materials like bulbs, tubers and seeds, which should then be thoroughly washed with water. It is used in an aqueous solution of 1:1000 strength. It is advisable to prepare it fresh every time before use.

(3) Sulphur treatment- A solution of lime and sulphur in aqueous state in the proportion of (1 part lime, 2 part sulphur and 1 part water) diluted to 8-10 times is also used as a dip or spray for woody plants. If foliage is required to be treated, the dilution should be 1-40. The solution is neither corrosive nor poisonous and can be stored in any container.

(4) Application of dry heat- Plants and plant materials can also be made free from injurious diseases by keeping them in hot air oven at a temperature of 212^{0} F for an hour, but in this case also the duration will vary with the nature of the materials. In some substances, the air penetrates easily while in other it may not penetrate with the same ease.

(5) Hot water treatment - Broadly speaking dipping of plants and their parts in water at 110-120° F for a period of ten minutes to one hour is sufficient for eliminating infectious organisms. The duration of the exposure greatly depends on the nature of the organisms and plant materials, which should be ascertained before treatment.

(6) Steam pressure sterilisation - Sterilisation with steam under pressure kills all organisms. An exposure of 20 lb. pressure for ten minutes is sufficient for loose materials but in the case of soil, a longer period of 1-2 hours is necessary, depending upon the texture of the soil.

(7) Treatment with organic fungicides - Seeds of Wheat, barley, paddy, oat, jowar, millets, maize and cotton are required to be treated with organo-mercuric compounds like Agrosan-GN, Ceresan, Tillex etc. The seeds are treated at the rate of 3 oz. of chemical per 82 lb. of seeds in either power~~e~~ driven machine or hand driven drum. At the Plant Quarantine Stations power driven machines are available which give about 45 revolutions in a minute. The seeds should be revolved for about 5 minutes.

(8) Treatment with other Miscellaneous chemicals - Formaldehyde is sometimes used in the proportion of 1 part to 240 parts of water for 1 to 1½ hours dip. It has been found effective for Gladiolus smut (Urocystis gladioloi) and other diseases like basal rot of bulbs (Fusarium bulbigenum). It is also effective against nematode (Tylenchus dipsaci). As the fumes, if inhaled for a longer period, are harmful it should be used in a well ventilated room.

Sulphuric acid (concentrated) has been employed to control, in the case of cotton seeds, surface-borne organisms such as (Xanthomonas malvacearum) and anthrachnose (Glomerella gossypii)

Packing Materials

All the provisions referring to plants and plant materials also apply to all packing materials used in packing or wrapping such plants and plant materials.

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Contd...

Note: (1) Specific information with regard to rules and regulations for import/from and export of plants/and plant materials to various countries can be obtained by making reference to Dr. S.N. Banerjee, Plant Protection Advisor to the Government of India, Ministry of Food and Agriculture Community Development & Cooperation (Department of Agriculture), 409 B. Shastri Bhavan, New Delhi . (Telephone No. 384182) NH IV, FARIDABAD (Telephone 813002)

(2) Some of the forms used by Plant Quarantine Service in India are copied out at the end of this Appendix.

Telephone : 535497/309

GOVERNMENT OF INDIA
MINISTRY OF FOOD AND AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE AND FUMIGATION STATION

Room No. 7 , Mezzanine Floor,
Customs Block, Bombay Airport
Bombay-29. Dated:

No.F.4(   )/6   -C.

To

The Deputy Superintendent/ M/s.... ....Cargo.
Airport Sorting Office,
Bombay Airport, Bombay-29.

Sub: Import of cotton samples.

Sir,

With reference to your Transit Parcel Bill/Chalan No.______________ Dated__________ Consignment(s) of cotton sample(s) was/were received in postal bag on__________________________.

The marginally noted consignment(s) has/have been detained for destruction for the following reason (s).

(i) Weight of consignment more than 20 Lbs.
(ii) Not packed according to requirements.
(iii) Contained with seed.
(iv) Unginned.

Other ____________ consignment (S) is/are returned with the certificate(s). The relevant T.P. Bill/consignment note(s) is/are returned herewith.

Yours faithfully,

PLANT QUARANTINE INSPECTOR

Copy forwarded for information in respect of consignment (s) bearing Posting Office No./Consignment Note (s) No.____________________________

to:- 1. Consignee:
2. Plant Quarantine Entomologist, Bombay-15.

Further correspondence may be addressed to the Plant Quarantine Entomologist, Plant Quarantine and Fumigation Station, Haji Bunder Road, Sewri, Bombay-15. (Phone No. 41089).

PLANT QUARANTINE INSPECTOR.

NO RESPONSIBILITY LIES WITH THIS OFFICE FOR DETERIORATION OR DAMAGE TO THE CONSIGNMENT (S).

Telephone: 535497/309

GOVERNMENT OF INDIA
MINISTRY OF FOOD AND AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE & FUMIGATION STATION

Room No.7, Mezza nine Floor,
Customs Block, Bombay Airport,
Bombay-29.

No...............

Dated....................

C E R T I F I C A T E

Consignment of cotton sample (s) bearing C. Note/Transit Bill No. ....Imported by M/s.......................from M/s... country of origin.......................has been inspected/fumigated and may be released.

1. No fumigation fee is recoverable

2. Fumigation fee of Rs..............may be recovered from the consignee under intimation to this office.

for PLANT QUARANTINE ENTOMOLOGIST

Phone: 535497/309

GOVERNMENT OF INDIA
MINISTRY OF FOOD & AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE & FUMIGATION STATION

Room No. 7, Mezzanine Floor,
Customs Block, Bombay Airport,
Bombay-29. Dated:

No. F.2(   )/6-.P

CERTIFICATE

Consignment of ______________________________

Bearing Consignment Note No./T.B. No. ______________________________

Imported by M/s. ______________________________

has been inspected/treated and may be released.

for PLANT QUARANTINE ENTOMOLOGIST

Telephone: 535497/309

GOVERNMENT OF INDIA
MINISTRY OF FOOD AND AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE & FUMIGATION STATION

Room No. 7, Mezzanine Floor,
Customs Block, Bombay Airport,
Bombay-29 Dated:

No..................

To

The Deputy Superintendent/ M/s..............................Cargo
Airport Sorting Office,
Bombay Airport, Bombay -29.

Sub: Import of plants and plant materials.

Sir,

The consignment of plants/plant material bearing postal office No/ /Consignment Note No..........................under transit parcel bill/challan No...................dated...........................was received on.................... The condition to the contents on inspection was .... The consignment is detained for destruction, for the following reasons (s).

1. Not accompanied by phytosanitary certificate

2. Not accompanied by Government of India permit.

3. Import prohibited.

4. Packing not according to requirements.

Yours faithfully,

Entomologist

Copy for information forwarded to:-

1. Consignee

2. Plant Quarantine Entomologist, Bombay-15/

Further correspondence may be addressed to the Plant Quarantine Entomologist, Plant Quarantine & Fumigation Station, Haji Bunder Road, Sewri, Bombay-15.
Phone: 379489

PLANT QUARANTINE INSPECTOR

No responsibility lies with this office for destruction or damage to the consignment.

Telephone : 379489

GOVERNMENT OF INDIA
MINISTRY OF FOOD AND AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE AND FUMIGATION STATION

Haji Bunder Road, Sewri,
Bombay-15.

No... Dated________________

To

The Assistant Collector of Customs
Air Unit/Preventive/Appraising/Postal Appraising,
Ballard Estate, BOMBAY-1.

Sub: Consignment(s) of____
bearing customs No.____________________________________

Sir,

Your letter No.__________dated________________please refer to______________________our letter of even number dated________

The above consignment(s) was/were received in this office on______. The condition of the contents on inspection was________________________

Your attention is invited to item No...............of the footnote.

Yours faithfully,

PLANT QUARANTINE ENTOMOLOGIST

Copy forwarded to:-

1. Consignee

2. Agent

PLANT QUARANTINE ENTOMOLOGIST

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1. The consignement(s) is/are returned herewith /and may be collected on____

2. The consignment(s) is/are detained for destruction for the following reason (s):-
    (a) Want of Government of India permit to import by Air.
    (b) Want of official phytosanitary certificate(s) and additional certificate(s) from the country of origin.
    (c) Import prohibited
    (d) Not packed according to regulations.

NO RESPONSIBILITY LIES WITH THIS OFFICE FOR DETERIORATION OR DAMAGE TO PARCELS.

Telephone: 379489

GOVERNMENT OF INDIA
MINISTRY OF FOOD AND AGRICULTURE
DIRECTORATE OF PLANT PROTECTION, QUARANTINE & STORAGE
PLANT QUARANTINE & FUMIGATION STATION

Haji Bunder Road, Sewri,
Bombay-15.

No.............. Dated......................

CERTIFICATE

Air/Sea consignment of cotton sample(s) bearing Customs No.........
......imported by M/s ______________________________
________ from M/s ______________________________
hountry of origin ______________________ has been fumigated and may be released.

No fumigation fee is recoverable

Fumigation fee of Rs.__________ may be recovered from the party under intimation to this office

PLANT QUARANTINE ENTOMOLOGIST.

APPENDIX V

POST-ENTRY PLANT QUARANTINE : PESTO LOGICAL PORTION: IARI

The staff of the Phytosanitation Laboratory of the Division of Entomology has, on the basis of their work during the period January 1967 to December,1969, has drawn up three lists given at the end of this Appendix.

The first list includes over 300 plant genera, the seeds of which when examined either did not show any infestation, or infestation was due to one of the common stored grain pests (like *Tribolium castaneum*, *Calandra oryzae*, *Rhizopertha dominica*, *Oryzaephilus* sp., *Sitotroga cerealella*, *Callosobruchus* spp. etc.) and therefore the infested seeds could be cleared after fumigation.

In the second list, 134 plant genera are included. This list has been prepared from the available literature as the seeds of plants falling under these genera have been reported to carry latent infestation due to the seed infesting chalcidoids and bruchids of the genus *Bruchidius*. The genera marked with asterisk(*) were actually imported and received at the Phytosanitation Laboratory for inspection. In order to ensure against the introduction of pests as latent infestation in seeds, all the seeds falling under these 134 plant genera, were subjected to X-ray screening as per screening schedule standardised in the Phytosanitation Lab., and only uninfested seeds were released. Although number of genera included in second list is quite high, the seeds samples of plants falling under these genera during 1967, 1968 and 1969 constituted only 0.78%, 0.88% and 0.77%, respectively, of the total imports. The results of the X-ray studies revealed that as many as 40% samples were infested..

The third list includes plants and plant materials (excluding seeds) which are usually infested with coccids, thrips, mites, white flies, leaf miners, midges etc. Since a very wide variety of pests as well as of materials are involved, it is not possible to use a general disinfestation procedure for clearing them. In many cases either the disinfestation procedure is not known or if known there is no information on the tolerance of host plant to it. In such cases, therefore, quarantine inspection and post-entry quarantine is the only answer. Such consignments are very critically examined and at the least possible suspicion, the material is placed under post-entry quarantine. In cases where disinfestation procedures are available, the shipments are treated and released. Further, to be able to make plant quarantine more speedy and realistic, advance intimation is sought from the Head of the Division of Plant Introduction regarding the proposed introduction, so that the pest risk involved is studied and by the time the laboratory consignments actually arrive, the staff is well armed with information regarding what to expect and how best to tackle it.

Thus, it may be said that while most of the seed imports can be cleared after inspection or after fumigation or X-ray screening, the plants and plant materials (other than seeds) are more difficult to clear. In the latter case, for want of a general disinfestation procedure, each shipment has to be considered separately.

The propagating material imported by the Division of Plant Introduction pertains to a very large variety. For instance, in the case of items like wheat, paddy, sorghum etc. the germplasm comprising thousands of lines of each of these crops is imported every year. Further the plant breeders are often interested in related species of the crop ~~related~~ they are working on. For example, during 1967 to 1969, seeds of as many as 23 species of the genus *Datura*, 26 of *Gossypium*, 33 of *Solanum*, 21 of *Paspalum* etc. (vide list No.4 at the end of this Appendix)were imported. In view of import of such a large variety of new and promising lines of crops including cereals it is understandable as to why such imports are more risky, from the view point of pest entry, than even large scale or bulk imports of some known or established crop variety. The latter would generally carry the established and known pests, while the former can carry a wider variety of pests which may not even be noted as pests. This is particularly so in view of changing food habits of pests. For example the almond moth, *Cadra cautella* was a serious pest of dried fruits, raisins etc. but has not been reported as serious pest of wheat from some areas.

Therefore, in view of a very large variety of material which figures in imports on the one hand and in view of high pest risk involved on the other, it appears to be the basic minimum to subject all the imports to critical phytosanitary inspection. This is a must in view of the research bias to such activities at the IARI. This is the only way open to the Phytosanitation Laboratory Staff of this Institute for identifying the pest risk involved in diverse imports.

LIST NO: I

Plant genera the seeds of which were received at the Phytosanitation Laboratory (Entomology) during January 1967 to December 1969 and were cleared after examination, fumigation:

1. Abelmoschus (*Bhindi*)
2. Actinidia
3. Agropyron
4. Agrostis
5. Aleurites (Tung)
6. Allium (Onion)
7. Althaea
8. Amygdalis (Almond)
9. Anacardium (Cashew)
10. Arachis (Groundnut)
11. Areca (Betel nut)
12. Asparagus
13. Atriplex
14. Atropa
15. Avena (Oats)
16. Beta (Sugar beet)
17. Boehmeria
18. Bougainvillea
19. Buddleja
20. Caesalpinia
21. Cajanus (Arhar)
22. Canna
23. Cannabis (Ganja)
24. Capsicum (Chilli)
25. Carica (Papaya)
26. Carthamus (Safflower)

27. Castanea
28. Ceratonia
29. Chenopodium
30. Citrullus (Water melon)
31. Citrus
32. Coffea
33. Cola
34. Corchorus (Jute)
35. Cucumis
36. Cuminum
37. Cyamopsis (Guar)
38. Cyphomandra
39. Cynodon
40. Dahlia
41. Datura
42. Digitalis
43. Duboisia
44. Eleusine (Finger Millet)
45. Euchlaena
46. Fagopyrum
47. Ferula (Hing)
48. Ficus (Fig)
49. Foeniculum (Sonf)
50. Fragaria (Strawberry)
51. Fressia
52. Fuchsia
53. Guizotia
54. Helianthus
55. Hibiscus (Patsan)
56. Hordeum (Barley)
57. Humulus (Hops)
58. Hyoscyamus
59. Juglans (Walnut)
60. Lactuca (Lettuce)
61. Lagenaria
62. Lavandula
63. Linum
64. Lolium
65. Luffa
66. Macadamia
67. Malus
68. Mangifera (Mango)
69. Manihot (Tapioca)
70. Momordica (Bitter gourd)
71. Moringa (Drum stick)
72. Mussaenda
73. Nerium
74. Nicotiana (Tobacco)
75. Nigella
76. Ocimum (Tulsi)
77. Oryza (Rice)
78. Panicum
79. Papaver (Poppy)
80. Paspalum
81. Passiflora
82. Pennisetum (Bajra)
83. Perilla
84. Petunia
85. Phalaris
86. Phaseolus (French bean)
87. Phlox
88. Plantago
89. Plumeria
90. Poa
91. Poinsettia
92. Prosopis
93. Psophocarpus
94. Pueraria
95. Punica
96. Raphanus (Radish)
97. Rauvolfia
98. Ricinus (Castor)
99. Secale
100. Sesamum (Til)
101. Setaria
102. Solanum (Brinjal)
103. Jowar
104. Stylosanthes
105. Tagetes (Marigold)
106. Tephrosia
107. Theobroma (Cocoa)
108. Trichosanthes(Parva
109 Triticum (Wheat)
110. Uncaria
111. Viola
112. Voandzeia
113. Withania

114. Zea (Maize)
115. Zinnia
116. Zizyphus (Ber)

Note:- A commonly grown cultigen is indicated within parentheses for some of the genera.

LIST NO. 2

PLANT GENERA, THE SEEDS OF WHICH HAVE TO BE SUBJECTED TO X- RAY SCREEINING IMMEDIATELY ON IMPORT TO DETECT THE PRESENCE OF ANY LATENT INFESTATION:

*1. Ammi
*2. Anethum (Sowa)
*3. Annona (Custard apple)
*4. Anthyllis
*5. Astragalus
*6. Brassica
*7. Bromus
*8. Camellia
9. Caragana
*10. Cenchrus
*11. Centaurea
*12. Chrysanthemum
*13. Cicer (Gram)
*14. Cichorium
*15. Coriandrum (Dhania)
*16. Coronilla
*17. Crataegus
*18. Crotalaria (Sann hemp)
19. Dactylis
*20. Daucus (Carrot)
*21. Desmodium
22. Diospyros
*23. Dolichos
24. Eugenia
25. Euphorbia
*26. Festuca
*27. Gleditschia
*28. Glycine (Soybean)
*29. Glycyrrhiza (Mulethi)
*30. Gossypium (Cotton)
31. Haematoxylon
32. Indigofera
33. Lathyrus
*34. Lens (Lentil)
*35. Lepidium
36. Lespedeza
*37. Lotus
*38. Lupinus
*39. Medicago
*40. Melilotus

*41. Mentha (Mint)

*42. Olea

*43. Onobrychis

*44. Ornithopus

*45. Phleum

*46. Pistacia (Pistachio)

*47. Pisum (Pea)

*48. Prunus

*49. Psidium (Guava)

*50. Pyrus

*51. Rosa (Rosa)

52. Rosmarinus

53. Salvia

*54. Sesbania

55. Tamarix

56. Thermopsis

*57. Trifolium (Berseem)

*58. Trigonella (Methi)

*59. Vicia

*60. Vigna (Cowpea)

*61. Vitis (Grape)

Note: (1) Genera Marked (*)were actually imported by the Division of Plant Introduction during the period 1967 to 1969.

(2) A commonly grown cultigen is indicated for some of the genera within parentheses.

LIST NO. 3

Plants and vegetative plant propagating materials received in Quarantine Laboratory during the period from January 1967 to December 1969:

A. PLANTS (INCLUDING ROOTED PLANTS, SEEDLINGS AND SAPLINGS)

Actinidia chinensis (Chinese gooseberry)

Acer palmatum

Acer platonoides

Ananas comosus (pine apple)

Amygdalus persica (Peach)

Bougainvillea magnifica var. trailli

Buddeleja sp.

Cotinus coggygria

Clematis sp.

Campsis grandiflora

Campsis lugallew

Citrus sp.

Chrysanthemum sp.

Corylus sp.

Gleditschia triacanthos

Iris florentina

Hamamelis sp. (Witch hazel)

Fragaria sp. (Strawberry)

Juglans regia (Walnut)
Juniperus horizontalis
Magnolia soulangeana
Malus sylvestris (Apple)
Olea europaea
Prunus kwanzan
Prunus persica (Peach)
Pyrus malus (Apple)
Pyrus communis (Pear)
Ribes sp.
Rubus sp.
Rosa sp.
Vaccinium sp.
Yucca brevifolia
Rosa damascena
Sorbus aucuparia
Syringa amurensis
Syringa jamesi
Syringa rothomagensis
Theobroma cacao (Cocoa)

B. CUTTINGS AND BUDWOOD

Amygdalus persica (Peach)
Armeniaca vulgaris
Boehmeria nivea (Ramie)
Citrus sp.
Citrus reticulata
Camellia sinensis
Cynodon dactylon
Carya pecan (Pecan nut)
Eriobotrya japonica (Loquat)
Duboisia myoporoides
Humulus lupulus (Hops)
Juglans sp.
Juglans regia (Walnut)
Lagerstroemia indica
Malus sylvestris (Apple)
Malus sp.
Mangifera sp. (Mango)
Manihot utilissima (Tapioca)
Manihot esculenta
Mentha piperita (Pepper mint)
Prunus sp.
Prunus vulgaris
Prunus domestica
Prunus persica (Peach)
Prunus avium
Prunus cerasus
Pyrus malus (Apple)
Ribes nigrum
Ribes rubrum
Ribes grossularia
Saccharum officinarum (Sugarcane)
Vitis vinifera (Grape)
Pyrus communis (Pear)
Punica granatum

Persea americana

Pennisetum purpureum

Rosa sp.

Rosa damascena

Rosa rugosa

C. BULBS, RHIZOMES, SUCKERS & TUBERS

Ananas sativus (Pine apple)

Allium proliferum

Alpinia speciosa

Alpinia purpurata

Dioscorea floribunda

Dioscorea spiculiflora

Dioscorea sp.

Dioscorea alata

Dioscorea bulbifera

Fragaria sp. (Strawberry)

Hedychium coronarium

Hedychium gardnerianum

Hedychium sp.

Ipomoea batatas (Sweet potato)

Iris florentina

Musa sp. (Banana)

Musa paradisiaca

Phaeomeria magnifica

Solanum tuberosum (Potato)

Zingiber zerumbet

Note :- Common names are indicated for some species within parentheses.

LIST NO. 4

Species of 4 plant genera which figured in imports during the period January 1967 to December 1969:

1. Datura (23)
2. Gossypium (26)
3. Paspalum (21)
4. Solanum (33)

APPENDIX VI

POST-entry Plant Quarantine: Nematological Portion: IARI

The following categories of plant and plant materials have to be critically examined by this unit of the Phytosanitary Laboratory for nematode infection:

1. All vegetative plant propagating material including cuttings, fruits, tubers, bulbs and rhizomes etc., with particular reference to:
   - a) Seed potato for golden nematode (*Heterodera rostochiensis*)
   - b) Narcissus, Daffodil and Tulip bulbs for stem nematode (*Ditylenchus dipsaci*)
   - c) Banana Suckers for *Radopholus*/*similis:*
     Chrysanthemum and strawberry suckers for leaf nematodes (*Aphelenchoides fragariae*)
2. Seeds of the following categories of plants:
   - (a) Sugarbeet - for cyst nematode (*Heterodera schachtii*)
   - (b) Soybean - for cyst nematode (*H. glycines*)
   - (c) Paddy - for white tip nematode (*Aphelenchoides bessevi*)
   - (d) Wheat - for ear-cockle
   - (e) Onion, clover, lucerne etc - for stem nematode (*Ditylenchus dipsaci*)
   - (f) Coconut - for red ring nematode (*Rhadinaphelenchus cocophilus*)

Other materials not covered by the above need not be examined very critically.

Depending on the degree of infestation encountered, the materials are either released, rejected, given suitable treatment or recommended for growing under phytosanitary conditions.

Much depends upon the quantity and nature of the seed material that is received for inspection. If they are in very small quantities they can be thoroughly examined for the above species of nematodes which are carried as either internal parasites or contaminants and the planting material can be released after treatment for removal of the infection/contamination. However, this will not be possible if the consignment received is large or bulky. In this case destruction of the infested material will be the only action that can be taken. This would apply equally to rooted cuttings and other rooted plant materials also which carry soil adhering to the roots. In this case the soil may contain parasites of not only that ~~the~~ particular plant, but also nematode contaminants from other crops grown in that area. As such these will have to be thoroughly checked and may have to be destroyed in some cases.

Many species of ectoparasitic nematodes belonging to the genera *Helicotylenchus*, *Hoplolaimus*, *Rotylenchus*, *Tylenchorhynchus*, *Criconemiodes* etc. commonly encountered in root and plant material can be easily disinfested and the material released without much delay.

Appendix VII

Post-entry Plant Quarantine : Pathological Portion : IARI

In India, most of the introduced seed and planting material is grown in the main crop producing areas. Phytosanitary precautions have therefore to be taken very meticulously.

Inspection procedures:

Standard plant quarantine procedures are practised in some leading countries of the world (Anon., 1966; Leppik, 1970)*. The procedures for seed borne pathogens include:

1. Visual observations,
2. Observations under stereobinocular microscope,
3. Washing test,
4. Blotter and Agar test, and
5. Recommendation for growing in glass houses.

(In certain cases this Phytosanitation Laboratory unit itself carried out growing-on tests in the glass house).

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* Anon.(1966).

Report of the Joint EPPO/ ISTA/ working party. October, 1966, Paris.

*Leppik, E.E. (1970)

Detection and interception of foreign pests, pathogens and weeds from introduced seeds.

Proc. Int. Seed Test. Assoc. 35 (1) 43-49.

The time factor involved in such detailed inspection is given in the information tabulated below:

Nature of propagule	Method of examination	Period required	For intercepting
Seeds	Visual observation	100 seed samples per worker per day	Seed contaminants like smuts, ergot sclerotia, soil, weeds, other plant parts
Seeds	Incubation test on blotter or agar	After 8th day, 50 samples per worker per day	Pathogens like species of *Cercospora*, *Colletotrichum*, *Botrytis*, *Diplodia*, *Fusarium*, etc.
Seeds	Growing-on test in glass house	One growing season	Viruses, certain obligate fungal parasites and bacterial pathogens
Seeds	Use of indicator hosts	One week indicator hosts	Virus diseases
*Vegetative propagules or rooted plants	Continuous observation in a glass house or in isolated areas away from main crops	For annuals at least 1-2 seasons. For perennials more years.	Difficult to find fungal, viral, or bacterial infection hibernating inside the tissue.

* Scion, cuttings, rhizomes, bulbs, etc.

Interceptions:

By using above procedures for knowing the health conditions of the seeds and plant parts, this post-entry plant quarantine unit has intercepted a number of seed borne pathogens in the imported material (see list at the end of this Appendix), even though these were accompanied by phytosanitary certificates and in most cases treated with fungicides.

Ergot fungi such as *Claviceps purpurea* in the case of *Triticales* and *Agropyron* species, smut in *bajra*, sorghum and barley, and bunt in wheat could be detected by visual observations only. For such pathogens, it is very easy to examine the samples in a very short time without resorting to blotter test. Entry of such pathogens can easily be prevented, if the senders of such ' introductions ' are watchful either at the time the seeds for export are harvested from plants or just prior to despatching the seeds. The experience is that this is often overlooked. The accompanying phytosanitary certificate is not dependable.

Pathogens like *Botrytis cinerea* in linseed, *Phoma batae* in sugarbeet, or *Diplodia macrospora*, *Diplodia zeae*, *Fusarium* spp. , *Helminthosporium* spp. , *Alternaria* spp., etc. in various crops can be detected essentially by blotter or agar test only because they are present as spores on the surface and as mycelial infections inside the seed. As such, they cannot be detected by visual observations. Although surface borne spores can be detected quickly by washing test, this test will not give any idea whether the spores are viable or dead. Under the circumstances blotter and agar tests are the only methods by which we can detect the presence of serious pathogens, including bacterial infection.

Concerning detection of viruses in seeds, no single test is confirmatory. The growing-on test, use of indicator hosts, seed morphology, fluorescent microscopy, and serndiagnostic tests are quite reliable in identification of the disease at the seed level. Extension of these tests in phytosanitation procedures is in experimental phases at this Laboratory unit.

Significance of interceptions:

If the interceptions of the type listed, were to gain an entry in India and allowed to proliferate, they would constitute danger not only to the Indian crop belonging to the 'introduction' concerned as well as to other crops in the entire host range of the pathogen. For example, *Helminthosporium maydis* intercepted on sorghum and *bajra* is known to be serious on maize in USA. Similar case was reported by Noble (1951)*. The ubiquitous fungal parasite *Sclerotinia sclerotiorum* was detected by her as a pathogen carried in turnip seed. This provided the source for soil infection capable of attacking artichoke, carrot and other vegetable crops.

Although most of the pathogen species in the list of interceptions at the end of this Appendix are known to occur in India, all the physiologic races, or biotypes of each of them may not exist in this country. Karnal bunt (*Neovossia indica*) which was so far known to occur only in India, Pakistan and Afghanistan, was intercepted in samples from Mexico. Since it was intercepted with seeds of certain new varieties, there is every possiblity that the interception belongs to a new biotype (race).

A new virulent isolate of *Helminthosporium sativum* was intercepted and the pathogenicity of the same isolate was tested on Indian wheat varieties such as Sonora 64 and Agra Local. Damage to these varieties was about 90 to 98%. Seedlings were killed within 2 to 3 weeks. No such *Helminthosporium sativum* isolate is known to exist in India.

Diplodia macrospora and *Diplodia zeae* are known to cause stalk and ear rot of corn in USA, where there is a regular maize breeding programme for resistance against this disease. So far, this disease is not serious in India. This Phytosanitation Laboratory unit has taken care to eliminate *Diplodia* infected seed lots imported for using in corn breeding programmes in India.

The quantum of pathogen inoculum that was intercepted wihh seed introductions is also alarming. *Bajra* smut was encountered in more than 30% of a total lot of about 6,000 seed samples. Infection was about 15 to 20% in each sample. *Fusarium graminearum* and *F. avenaceum* known to cause root rot, collar rot and scab in many cereals. *Fusarium graminearum* was recently intercepted in wheat seeds which showed 30 to 80 percent infection. It was alarming to note that a large number of samples contained upto 70 to 80 percent shrivelled and very light seeds due to the infection by *F. graminearum*.

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* Noble, M (1951). Seed pathology, *Nature*, *164*; (4274) 534-537.

Lacunae in facilities for detailed post-entry quarantine investigations:

At present, this Phytosanitation Laboratory unit does not have adequate facilities for routine detection of viral infection in the seeds. Many legume viruses are seed-borne. One of the basic requirements for virus detection by growing-on test is a 30/30 copper mesh screen house in which to grow plants from seed lots for at least one growing season and inspect them regularly.

Also, this unit does not have full fledged facilities for the detection of hibernating infections of viral, bacterial and fungal nature in cuttings, bud-wood and rooted plants.

Following additional facilities will be essential:

(1) Isolated field (detention) nurseries: It will be desireable to have detention nurseries in isolated areas, preferably in Rajasthan. For temperate and subtropical crops, similar suitable sites in other areas would also be needed.

(2) Phytosanitary propagation structures: Features that can be incorporated into a green house to improve phytosanitation and thus facilitate post entry quarantine work include: compartments in a single green house (or series of small glasshouses), positive air presure, filtered air, air conditioning, concrete floors with drains, raised benches, container grown plants, humidity control, double door air lock arrangments, screened vents (30/30 mesh copper or Saran), soil sterilization, fumigation

chambers, incinerators and steam sterilisation and other laboratory facilities, all in a contiguous block. Other features necessary are: pathogen free water wupply sealing of structural joints, heat thereapy, meristem tip culture laboratory, hot water and hot air treatment facilities, shoe disinfectants, and fungicidal spray programme.

As a precautionary measure, it would be essential that the standing crops in the field raised from imported material be inspected regularly by the Plant Pathologists for any out break of diseases arising from hibernating pathogens. This particularly refers to the material that is urgently needed by the breeder for his research work and as such cannot be grown in Phytosanitary glass house or in detention nurseries.

List of Interceptions

Introduction	Interception	
Host	Pathogen	Disease
1. Seeds		
(1) Wheat and wheat rye	*Tilletia foetida*	Bunt
	T. caries	Bunt
(*Triticum aestivum*	*Neovossia indica*	Karnal bunt
and *Triticales*)	*Fusarium graminearum* *F. avenaceum* *F. culmorum*	Root rot, seedling and head blight, scab
	Claviceps purpurea	Ergot
	Helminthosporium sativum	Virulent isolate causing leaf spot and seedling blight, root and crown rot
(2) Maize (Corn) (*Zea mays*)	*Diplodia macrospora* *Diplodia zeae* *Fusarium poae* *F. graminearum*	Stalk rot and seedling blight

	Colletotrichum graminicola	Anthracnose
(3) Barley	*Ustilago hordei*	Covered smut
(*Hordeum vulgare*)	Helminthosporium *sativum*	Seedling blight, stalk rot
(4) Rice (Paddy)	*Ustilaginoidea virens*	False smut
(*Oryza sativa*)	*Trichoconis padwickii*	Stackburn disease, seedling blight, pink, kernels
	Helminthosporium oryzae	Blight
	Nigrospora oryzae	Leaf spot
(5) Sorghum	*Sphacelotheca sorghi*	Grain smut
(*Sorghum vulgare*)	*Gloeocercospora sorghi*	Zonate leaf spot
	Helminthosporium sorghicola	Target spot
	Colletotrichum gloeosporioides	Anthracnose
	Fusarium chlamydosporum	
	F. graminearum	
	F. solani	
(6) Sugarbeat (*Beta vulgaris*)	*Phoma betae*	Damping off and leaf spot
(7) Linseed	*Botrytis cinerea*	Gray mould
(*Linum usitatissimum*)	*Fusarium solani*	
	Nigrospora oryzae	
	Verticillium spp.	
	Pestalotia sp.	
(8) Bajra (Pearl-millet) (*Pennisetum typhoides*)	*Tolyposporium penicillariae*	Smut
	Helminthosporium maydis	Leaf spot
	Nigrospora oryzae	Leaf spot

	Nigrospora spherica	
	Fusarium chlamydosporum	
(9) Soybean (Glycine max)	*Colletotrichum truncatum*	Seedling blight anthracnose
	Myrothecium roridum	Leaf spot
(10) Grasses :		
Andropogon sp.) *Paspalum* sp.)	*Claviceps purpurea*	Ergot
Lolium multiflorum	*Ustilago compacita*	Smut
	Claviceps purpurea	Ergot
(11) *Brassica rapa*	*Sclerotinia sp.*	Root rot

II. *Vegetative propagules*

(1) Citrus cuttings	*Colletotrichum gloeosporioides*	Die-back
(2) Grape cuttings	*Botrytis cinerea*	Gray mold
(3) Rose plants	*Botrytis cinerea*	Gray mold
(4) Safron bulbs	*Fusarium oxysporum*	Wilt
	F. solani	Root rot

APPENDIX VIII
(Front page)

Name of Accredited Agency

PLANT PROTECTION SERVICE

PHYTOSANITARY CERTIFICATE

This is to certify that the plants, parts of plants or plant products described below or representative samples of them were thoroughly examined on
by
an authorised officer of this organization
and after treatment were found to best of his knowledge to be substantially free from injurious diseases and pests and that the consignment is believed to conform with the current phytosanitary regulations of the importing country both as stated in the additional declaration hereon and otherwise.

Fumigation/disinfection treatment (if required by importing country):

Date______________________ Treatment_______________________

Duration of exposure Chemical and

and temperature____________ concentration

Additional declaration:

DESCRIPTION OF THE CONSIGNMENT

Name and address of exporter:

Name and address of consignee:

Means of conveyance: Point of entry:

Distinguishing marks	Number and description of packages	Quantity and name of produce (including botanical name, if required by importing country)	Origin as certified by shipper.

Signature

(Stamp of the Service) Dated Rank

No liability shall attach to this service or any of its officers or representatives with respect to this certificate.

(On the back of Appendix VIII)

Seal Name of authorised plant introduction agency

Export of Plant Propagating Material

NO OBJECTION CERTIFICATE

Date

To

The Assistant Collector, Customs,

Sir,

Planting material detailed below is to be exported to ______________

____

Through ____

From ____

____

on international exchange basis for experimental use in agri-horticultural/ sylvi/cultural/botanical/experiments.

The material has no commercial value and there is no objection to its export.

It is requested that it may kindly be cleared so that the parcel containing exclusively the material mentioned below (in attached list) goes forward without any difficulty by air or surface transport agencies.

Material:

____

____

____

Yours faithfully

(Agency concerned)

Plant Inspection Certificate

Certified that the contents of this consignment do not include plant propagating materials the export of which is legally banned.

Sd/-
Govt. of India Accredited Agency.

APPENDIX IX

LIVESTOCK IMPORTATION ACT (ACT NO. 9 OF 1898)
(12.8.1898)

As amended by the Livestock Importation (Amendment) Act, 1953 (Act. No. 1 of 1953)

An Act to make better provision for the regulation of the importation of livestock.

WHEREAS it is expedient to make better provision for the regulation of the importation of live-stock which is liable to be affected by infectious or contagious disorders. It is hereby enacted as follows:-

SHORT TITLE AND LOCAL EXTENT:

1. (1) This Act may be called the Livestock Importation Act, 1898.

(2) It extends to the whole of India.

DEFINITIONS:

2. In this Act, unless there is anything repugnant in the subject or context.

(a) the expression " infectious or contagious disorders" includes tick-pest, anthrax, glanders, farcy, scabies and any other disease or disorder which may be specified by the Central Government by notification in the Official Gazette; and

(b) "Live-stock" includes horses, kine, camels, sheep and any other animal which may be specified by the Central Government by notification in the official Gazette;

(c) "import" means the bringing or taking, by sea, land or air, into the territories to which this Act extends.

POWER TO REGULATE IMPORTATION OF LIVE-STOCK

3. (1) The Central Government may, by notification in the Official Gazette, regulate, restrict or prohibit, in such manner and to such extent as it may think fit, the import into the territories

to which this Act extends or any specified place therein of any livestock which may be liable to be affected by infectious or contagious disorders and of any fodder, dung, stable-litter, clothing, harness or fittings appertaining to live-stock or that may have been in contact therewith.

(2)A notification under sub-section (1) shall operate as if it had been issued under Section 19 of the Sea Customs Act, 1878 (8 of 1878) and the officers of customs at every port shall have the same powers in respect of any live-stock or thing with regard to the importatinn of which such a notification has been issued, and the vessel containing the same, as they have or the time being in respect of any article the importation of which is regulated, restricted or prohibited by the law relating to sea customs and the vessel containing the same; and the enactments for the time being in force relating to sea customs or any such article or vessel shall apply accordingly.

POWER FOR STATE GOVERNMENT TO MAKE RULES

(1) The State Government may make rules for the detention, inspection, disinfection or destruction of imported livestock, and fodder, dung stable-litter, clothing, harness or fitting appertaining to imported livestock or that may have been in contact therewith, and for regulating the powers and duties of the officers whom it may appoint in this behalf.

(2) In making any rule under this Section, the State Government may direct that a breach thereof shall be punishable with fine which may extend to one thousand rupees.

PROTECTION TO PERSONS ACTING UNDER ACT.

(5) No suit, prosecution or other legal proceeding shall lie against any person for anything in good faith done or intended to be done under this Act.

THE CENTRAL LIVESTOCK (IMPORT) QUARANTINE RULES

In exercise of the powers conferred by Section 3(1) of the Livestock Importation Act, 1898 (9 of 1898), the Central Government hereby make the following rules, namely-

1. SHORT TITLE AND COMMENCEMENT:

(i) These rules may be called the Central Livestock (import) Quarantine Rules, 1971;

(ii) They shall come into force with effect from

2. DEFINITIONS:

In these Rules, unless the context otherwise requires,

(a) 'carcass' means the carcass of livestock and includes the flesh, bones, skin, hoofs, offal, feathers or any other part of any dead livestock separately or any portion thereof;

(b) 'disease' means infectious, or contagious disorder of livestock;

(c) 'diseased' means suffering from any infectious or contagious disease;

(d) 'import' means to bring into any part of the country from any place outside India;

(e) 'importer' means a person in whose name the bill of lading is made;

(f) 'exporter' means the person organisation who is the owner of livestock in the country of export;

(g) ' Quarantine' means detention and segregation of livestock newly arrived for observation and testing in order to keep such livestock separate from other livestock for the prescribed period;

(h) 'schedule' means a schedule annexed to these rules;

(i) 'valid' certificate means a certificate which is in respect of livestock imported from any country included in column (2) of Schedule I granted by the authority specified in column (3) thereof to the effect that such livestock was examined within thirty days prior to embarkation and found to be healthy and free from all signs and symptoms of any of the contagious and infectious disease of livestock and in respect of diseases specified in Schedule II that the livestock was subjected to the prescribed tests with negative results within the stipulated period;

(j) 'healthy' means in physiological state of health and free from contagious and infectious disease;

(k) 'Department' means the Department of Agriculture of the Ministry of Food, Agriculture, C.D. and Cooperation of the Government of India.

(l) 'Unit' means the Livestock (Health) Unit of the Department ;

(m) 'Secretary' means the Secretary of the Department of Agriculture;

(n) 'Animal Husbandry Commissioner' means the Animal Husbandry Commissioner with the Government of India in the Department of Agriculture;

(o) 'Director' means the Director, Indian Veterinary Research Institute, Izatnagar, U.P.;

(p) 'Inspector' means an Inspector of the Animal Quarantine Section of the Unit;

(q) 'livestock' means horses, asses, mules, cattle, buffaloes, camels, sheep, goats, swine, dogs, cats, poultry, parrots, pigeons, canaries and finches. It also includes semen and fertile eggs;

(r) 'contagious or infectious disease or disorder means diseases specified in schedule II of the rules and other communicable diseases of livestock;

(s) 'declaration' means a written statement given by the exporter organisation or his authorised agent;

(t) 'Quarantine Officer' means the Veterinary Officer appointed for the purpose.

3. Imported livestock to be healthy and to have valid health certificates.

No livestock shall be imported unless it is healthy and is accompanied by valid health certificates and satisfy the following additional requirements.

A. BOVINE SPECIES OF ANIMALS

"Provided that in respect of the contagious Bovine Pleuro-Pneumonia animals would be accompanied by a declaration by the owner or the shipper to the effect that;

I. The cattle have not been in contact with cattle suffering from contagious Bovine Pleuro-pneumonia or with any bovine which has given a positive reaction to C.B.P.P. Complement Fixation Test during the 12 months proceeding shipment to India.

II. Provided further that it is accompanied by a certificate from the competent authority prescribed in schedule I of the rules to the effect that he has no reason to doubt the truth of the declaration by the owner or the shipper.

(1) Provided further that in respect of cattle originating from countries known to have Blue Tongue, the animals should have been drawn from areas free from Blue Tong.

B. EQUINE SPECIES OF ANIMALS

Provided that in respect of African Horsesickness the animals originating from affected countries shall be vaccinated with potent polyvalent vaccine at least one month before but within 12 months of the actual date of embarkation.

(2) Provided further that in respect of Equine species of animals originating from countries known to have Equine Viral Abortion, the animals should have been drawn from areas free from Equine Viral Abortion' and should have been tested and found negative for evidence of infection within 3 days prior to embarkation.

C. SHEEP & GOATS

Provided that:

i) in respect of sheep originating from countries known to have Blue Tongue the animals were drawn from areas free from the disease; otherwise they should have been vaccinated at least 4 weeks prior to embarkation.

ii) In respect of sheep originating from countries known to have scrappe, the animals should be accompanied by a certificate to the effect that the sheep were drawn from farms/areas in which no case of scrappie was recorded/detected for at least 5 years.

D. DOGS & CATS

Provided that;

In respect of dogs and cats originating from countries where rabies infection is known to exist are required to be accompanied by another certificate containing the date of vaccination, the vaccine used, brew number of vaccine and the name of the production laboratory and granted by the authority specified in column (3) of Schedule I to the effect that the dog/cat was vaccinated against rabies more than one month but within twelve months prior to actual embarkation with nervous tissue vaccine or within thirtysix months prior to actual embarkation with chick embryo/vaccine.

Unvaccinated dogs and cats originating from countries where rabies exists shall be vaccinated on arrival and quarantined for a period of 30 to 45 days and during this period the entire cost of maintenance feeding and other expences shall be brone by the importer.

The cost of vaccination in both the cases shall be borne by the importer.

Unvaccinated dogs and cats originating from countries free of rabies and not exposed to rabies infection shall be vaccinated on arrival and kept under restraint by the importer for one month.

The cost of vaccination in both the cases shall be borne by the importer.

E. POULTRY

Poultry, including day-old chicks, imported from any country specified in column (2) of Schedule I, should be accompanied with a certificate immediately prior to embarkation containing a statement signed by the authority prescribed in column (3) thereof to the effect that-

(i) the flocks from which the consignment of poultry is drawn have been free from the contagious and infectious diseases for a period of at least three months prior to embarkation;

(ii) The day-old chicks contained in this consignment have not been in contact with the adult birds prior to embarkation;

(iii) in respect of diseases listed in Schedule II the adult poultry birds which are either themselves being exported or from which day-old chicks or immature chickens are included in the consignment were subjected to the tests specified therein with a negative results immediately prior to embarkation.

4. DECLARATION TO BE MADE BY THE EXPORTER:

In addition to the valid certificate, in the case of day-old chicks, -----there shall be a declaration made by the exporter that the chick were:-

(i) hatched in an incubator in which no eggs from infected birds had been hatched and that the incubator was properly fumigated and disinfected prior to hatching; and

(ii) packed direct from the incubator into new boxes for export and that there was no contact with any birds other than day old chicks.

5. RESPONSIBILITY OF THE IMPORTER/STATE ANIMALS HUSBANDRY DEPTT. IN RESPECT OF IMPORTED POULTRY

The imported birds shall be kept under observation after release from quarantine for a period of at least eight weeks on the importer's premises. It shall be incumbent on the part of the importer to notify to the Quarantine Officer of the concerned H.Q.S. and the States Animal Husbandry Department any losses due to deaths among the imported birds during the above mentioned period and also make available any such dead birds for examination.

INFORMATION TO BE GIVEN BY THE MASTER/OFFICER INCHARGE OF VESSEL/ COMMANDER OF AIRCRAFT/GUARD OF THE TRAIN /OWNER OF THE VEHICLE ETC.

The Master or Officer Incharge of a vessel, the Commander of an aircraft, guard of a railway train, owner of the vehicle in which livestock is being imported shall,-

(i) * on entering the port hoist the N Flag under the ensign for the information of the Veterinary Officer, and shall keep it flying until the signal is suitably acknowledged;

(ii) * inform the pilot that livestock is on board;

(iii) allow the Quarantine, Officer all facilities for inspecting the livestock on board and at the places they have been quaratered;

(iv) furnish the Quarantine Officer with such detailed information as he may require as to:-

(a) the numbers and kinds of livestock originally taken on board;

(b) the place or places at which the livestock was taken on board;

(c) the names and addresses of the persons to whom the livestock is consigned;

(d) the occurance, of any sickness/ death among the livestock during voyage, flight or carriage and their suspected causes;

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* applies to import by sea only.

(e) not permit the landing of any livestock any fodder, dung, stable litter, clothing , harness or fitting which has been in contact with or appertains to such livestock until the Quarantine Officer has made his inspection and then only in accordance with such directions as the Quarantine's Officer may, under these rules, be authorised to give.

6. INSPECTION BY QUARANTINES OFFICER

On receiving intimation that livestock is on board any vessel/air craft/vehicle/train or brought on foot entering port/landing at the aerodrome arriving at a check-post, the Quarantine Officer shall, without delay, go on board the vessel/aircraft/vehicle/train and inspect the livestock and the places therein where the livestock has been quarterd.

7. DETENTION IN QUARANTINE:

The Quarantine Officer may order the detention in Quarantine of any imported livestock porvided that:-

any livestock which at the time of importation is the property of the Defence Department of the Government of India and has been imported in accordance with the instructions given by that department and has been certified to be free from disease by a Veterinary Officer authorised for this purpose by that department; shall not be liable to detention in quarantine.

If any question arises as to whether a certificate under which livestock has been imported is valid or not, the decision of the Quarantine Officer, subject to the provisions of the rule 19, shall be final.

8. PERIOD OF DETENTION IN QUARANTINE

The duration of quarantine may, at the discretion of the Veterinary Officer, extend to a period not exceeding ninety days and the livestock may be obtained in quarantine at such places and in such manner as the Quarantine Officer may direct;

9. REMOVAL TO QUARANTINE

All livestock ordered under rule 7 to be detained in quarantine shall be removed from the vessel/aircraft/ vehicle train by the importer or his authorised agent at such time and in such manner as the Quarantine Officer may direct and taken to the place of qurantine by the importer or his authorised agent.

10. CONTROL OF ANIMALS IN QUARANTINE

All livestock detained in quarantine shall be under the control of the Veterinary Officer.

11. PAYMENT OF CHARGES

All expenses in connection with the landing from the vessel/aircraft/ vehicle/train and removal to quarantine of thelivestock including the payment of customs dues, part dues and all expenses incurred in feeding the livestock in quarantine shall be borne by the importer.

12. TREATMENT OF DISEASE LIVESTOCK

Any imported livestock which the Quarantine Officer finds to be diseased shall(for reasons to be recorded in writing) be directed to be destroyed and the carcass buried or cremated and no compensation shall be payable to the importer.

13. DISPOSAL OF LITTER ETC. OF DISEASED LIVESTOCK

All fodder, dung, stable litter, clothing, harness or fitting that may have been in contact with or appertained to diseased livestock shall be disposed of in such manner as the Quarantine Officer may direct. The clothing, harness or fitting not returned to the importer after disinfection may be directed to be sold by the Quarantine Officer and the proceeds thereof shall be refunded to the importer or his authorised agent after deducting any charges due from him.

14. DISINFECTION

(i) The Quarantine Officer may by notice require the Master or Officer Incharge of vessel/Commander of the aircraft/owner of the vehicle/guard of the train on which livestock has been imported tohave the vessel/aircraft/ vehicle/train disinfected within such time and in such manner as he may specify therein.

(ii) The Quarantine Officer may examine the vessel/air-craft/vehicle/train to satisfy himself that such disinfection has been properly carried out, and the Master or Officer Incharge of the vessel/Commander of the aircraft/owner of the vehicle/guard of the train shall afford him all reasonable facilities for making/examination and shall comply with such further instructions as the Quarantine Officer may, on making such examination, think fit to give to ensure the full and proper disinfection of the vessel/aircraft/ vehicle/train.

15. PAYMENT OF QUARANTINE CHARGES

In respect of every head of livestock detained in quarantine the importer or his authorised agent shall deposit, within five days of landing of such livestock, a sum of Rs. 100/- with the quarantine officer and further sum of Rs. 100/-. after the expiry of fifteen days from the date of landing. The amount charged shall ordinarily be ~~[illegible]~~ at the following rates, unless the Quarantine Officer orders otherwise, namely:-

Horses and ponies --- Rs. 4.00 per animal per diem

Asses and mules --- Rs. 3.00 per animal per diem

Bulls, Cows, bullocks and buffaloes ---	Rs. 2.50 per animal per diem
Calves, sheep, goats, swine, dogs and cats-	Rs. 100 per animal per diem

POULTRY

(i) One bird ---	Rs. 0.50 per diem
(ii) Flock of 4 to 6 birds---	Rs. 2.00 per diem and every additional bird @ Rs. 0.25 per diem.
(iii) Chickens under one month. ---	R a) Flock of 25 or less Rs. 1.00 per diem, b) Every additonal flock of 5 or less Rs. 0.12 per diem, subject to a maximum of Rs. 2.50 for 100 chickens; and for every additional 100 chickens (or fraction thereof)Re. 1.00 per diem.

If special diet, veterinary aid or test, as prescribed by the Quarantine Officer, is found necessary, the actual cost incurred shall be paid by the importer. If permission to feed the livestock is given to the importer or his authorised agents, the quarantine fee shall be charged at the folloiwng rates, namely -

i) Re 1.00 per diem for each head of horses, asses, mules bulls, cows, bullocks and buffaloes;

ii) Re. 0.50 per diem for each head of calves, sheep, goats, Swine, dogs and cats.

iii) Re.0.50 per diem upto 25 birds/ chickens;

(iv)Re. 1.00 per diem for every additonal 100 birds/ chickens (or fraction thereof)

(RATES are subject to periodical review and revision)

16. RELEASE FROM QUARANTINE

The livestock detained in quarantine shall not be released except with the permission of the Quarantine Officer, which shall not be granted until the livestock is certified to be free from disease and all charges incurred in connection with its detention have been paid.

17. SALE ON DEFAULT OF PAYMENT OF CHARGES

(a) In default of payment of charges due on account of any livestock such livestock shall be sold by public auction and the charges shall be deducted from the amount relised and the balance paid to the importer or his authorised agent. In case the amount realised falls short of the amount due then the balance may be recovered from the importer in such manner as may be prescribed by the Central Government.

(b) If any livestock is not removed by the importer within seven days of the isue of notice to that effect signed by the Quarantine Officer, such livestock shall be sold by public auction and the proceeds shall after deducting the charges incurred in connection with the detention and auction of such livestock be deposited in the Government Treasury.

18. CERTIFICATE OF FREEDOM FROM DISEASE

The importer, or his authorised agent, on payment of a fee of Rs. 16.00 or Rs. 5.00 per head of livestock (except poultry), whichever is greater , shall be entitled, on demand, to a certificate to the effect that the livestock has been subjected to the required tests and has been found free from the diseases specified in Schedule II. In the case of poultry a fee of Rs. 5.00 or Rs. 1.00 per head of poultry including chickens, whichever is greater, shall be charged subject to a maximum at Rs. 100/- for one consignment.

PENALTY:

A person guilty of a breach of any of the rules shall be punishable with fine which may extend to one thousand rupees in respect of each breach.

20. RIGHT OF APPEAL

An appeal from an order passed by the Quarantine Officer under any of these rules other than rule 11 shall lie with the ~~Aniami~~ Animal Husbandry Commissioner with the Government of India within a period of fifteen days from the date of such orders.

21. RIGHT OF REVIEW

Any order passed by the Animal Husbandry Commissioner with the Government of India under Rule 19 may be reviewed by the Secretary, Department of Agriculture, Ministry of Fodd, Agriculture, C.D. & Cooperation, New Delhi.

SCHEDULE I

(see Rule 2)

Countries from which valid certificates shall be accepted.

S.No.	Countries	Authorisation
1	2	3
1.	United Kingdom	Any Veterinary Surgeon approved by Govt.
2.	Irish Free State	-do-
3.	Canada	Permanent Inspectors of the Health of Animals Branch of the Federal Dept. of Agriculture.
4.	Ceylon	Government Veterinary Surgeon, Colombo.
5.	Union of South Africa	Qualified Veterinary Surgeon, Approved by the Union of South Africa Veterinary Development.
6.	Australia	Vertinary Inspectors of the Stock Branch of the Dept. of Agriculture of the various territories of the Commonwealth.
7.	Egypt	Government Veterinary Surgeon.
8.	United State of America	Any veterinary Surgeon approved by Govt.
9/	New Zealand	Veterinary Inspector of the Agriculture Dept.
10.	Kenya Colony	Government Veterinary Surgeon.
11.	Straite Settlements	-do-
12.	Pakistan	Govt. Veterinary Officer (Class I) or Chief Veterinary Officer.
13.	Burma	Veterinary Officer, Corporation of Rangoon.
14.	Italy	Mayor of Municipality of the area of export together with the certificate of local Veterinary Officer.
15.	France	Director of Veterinary Dept. Countersigned by the Inspector General of Veterinary Dept. Ministry of Agriculture.
16.	Switzerland	Managing Director of the Federal Veterinary Office.
17.	West Germany	Government Veterinary Officer.
18.	Denmark	Recognised Veterinary Officer, countrersigned by the Veterinary Directorate.
19.	Netherlands	Government Veterinary Inspector.

SCHEDULE II

(See Rule 2 and 20)

Animal	Name of the Disease				
	In English	In French	In Spanish	In Latin	Tests
1. Horses, asses & mules	1) Clanders(a) 2) Equin Viral Abortion	Morve	Muermo	Melleus Huwidus	Mallein test. Complement fixation test/ Serem neutralisation test.
2. Bulls, cows, bullocks buffeloes	1. Brucellosis	Brucellose	Brucellosis	Brucellosis	Agglutination test
	2. Johne's disease	Maladie de Johne	----	----	Johnin test.
	3. Tuberculosis	Tuberculosis	Tuberculosis	Tuberculosis	Tuberculin test
		Peripneumonia contagious des bovindea	Peripneumonia contagiosa bovina	Pleuropneumonia contagiosa bovum	Complement fixation test
3. Sheep & Goat	Brucellosis	Brucellose	Brucelbais	Brucellosis	Agglutination test.
4. Swine	Brucellosis	Brucellose	Brucelosis	Vrucellosis	-do-
5. Poultry	1. Bacillary white dirrhoea or pullorum disease	Pullorose	Pullorosis	Morbas pullorum	-do-
	2. Fowl typhoid.	Typhose aviare	Tifozis aviar	Typhus gallinarum	-do-
	3. Psittacosis (Parrots only)	Psittacose	Psitacosis	Psittacosis	Complement Fixation test.

(a) Animals imported from Australia or New Zealand will be exempted from Mallein test or tests.

(b) Applicable to animals imported from Africa including Sudan and South Africa, Asia, Australia and South America. It should also be certified, that to the best of his knowledge and belief (Authority prescribed in Schedule I of the rules) that cattle have been maintained in isolation from the date of completion of the test until shipment from the port of the country of origin.

APPENDIX Y

LIVESTOCK IMPORTATION ACT (ACT NO. IX OF 1898)
(12.8.1898)

THE LIVESTOCK IMPORTATION (AMENDMENT) BILL, 1969.

STATEMENT OF OBJECTS AND REASONS

Indian Livestock still enjoy the status of being free from a number of infectious and contagious diseases affecting livestock in other parts of the globe. In recent past, however, heavy losses had to be sustained through outbreak of diseases of exotic nature believed to have been introduced into the country through livestock and livestock products imported from abroad. For safegaurding the health of the livestock at home it is necessary to prohibit import of livestock affected with contagious and infectious diseases or livestock products.

At present import of livestock into India is regulated by the Livestock Imporation Act (Act No. IX of 1898) as amended in 1953. This act covers only Livestock. Livestock products like milk, meat, wool, etc. and import of sera, vaccine and other pathogenic material is not covered by this Act. At present the 1898 Act empowers the State Governments to make rules and to implement provisions of the Act. Since under Article 246 of the Constitution of India, Seventh Schedule port quarantine and import and export of livestock across customs frontiers fall in List -I - Union List, vide 28 and 41 respectively, it is the responsibility of the Central Government to establish quarantine stations and to make rules for the import of livestock, livestock products, sera and vaccines. It is therefore, proposed to introduce amendments for making better provision for regulation of the importation of livestock and livestock products, sera and vaccines.

An Act to make better provison for the regulation of the Importation of livestock, livestock products, Sera and vaccines. WHEREAS it is expedient to make better provision for the regulation of the importation of livestock, livestock products, sera and vaccines, which are liable to be infective. It is hereby enacted as follows:-

DEFINITIONS:

1. (1) This Act may be called The Livestock Importation Act, 1898.

   (2) It extends to the whole of India.

2. In this Act, unless there is anything repugnant in the subject or context -

   (a) the expression "infective" includes all causal agents communicable, disease of livestock.

   (b) "Livestock" includes horses, cattle, buffaloes, camels, sheep, goats, poultry and any other animal or bird which may be specified by the Central Government by notification in the Official Gazette;

   (c) "Livestock" Products" include milk, meat, eggs, semen, hairs, hides, skins, bones or any other production originating from livestock or poultry which may be specified by the Central Government by notification in the Official Gazette;

   (d) "Sera and Vaccines" include all types of antigens, sera, vaccines and live, dead or attenuated cultures of organisms which are liable to cause or stimulate disease in livestock or for immunising livestock against communicable diseases or for use in the production of immunising agents or for experimental, teaching or research work;

   (e) "Import" means the bringing or taking by sea, land or air, into the territories to which this Act extends.

POWER TO REGULATE IMPORTATION:

Contd....

(1) The Central Government may, by notification in the Official Gazette regulate, restrict or prohibit, in such manner and to such extent as it may think fit, the import into the territories to which this Act extends or any specified place therein or any livestock, livestock products, sera and vaccines, which may be liable to be infective.

(2) A notification under - sub- section (1) Shall operate as if it had been issued under Section 19 of the Sea Customs Act, 1878 (VIII of 1878) and the officers of customs at every port shall have the same powers in respect of any livestock or thing with regard to the importation of which such a notification has been issued, and the vessel or freighter containing the same, as they have for the time being in respect of any article the importation of which is regulated restricted or prohibited by the law relating to sea customs and the vessel or freighter containing the same; and the enactments for the time being in force relating to sea customs or any such article or vessel shall apply accordingly.

POWER TO CENTRAL GOVERNMENT TO MAKE RULES:

4. (1) The Secretary, Agriculture, in the Ministry of Food, Agri. C.D. & Cooperation, may make rules for the detention , inspection, disinfection or destruction of imported livestock , livestock products, sera and vaccines and fodder, dung, stablelitter, clothing, harness or fitting appertaining to imported livestock or that may have been in contact therewith, and for regulating the powers and duties of the officers whom he may appoint in this behalf. (2) In making any rule under this Section. The Central Government, may direct that a breach thereof shall be punishable with fine which may extend to one thousand rupees.

PROTECTION TO PERSONS ACTING UNDER ACT:

5. No suit, prosecution or other legal proceeding shall lie against any person for anything in good faith done or intended to be done under this Act.

APENDIX XI

LIVESTOCK EXPORTATION BILL 1971

STATEMENT OF OBJECTS AND REASONS

India has huge livestock population as a result of which there is great potential for the export of livestock and livestock products. Foreign countries are reluctant to buy these commodities from India because of fear of disseminatinn of infectious and contagious diseases through this trade. All the foreign countries insist on a through examination of livestock and livestock products from verterinary health point of view and for issue of health certificates granted by the Central Government.

There is no legislation regulating export of livestock and livestock products in India and this has been our biggest lacuna in promoting export of livestock and livestock products. In spite of this handicap, India exported Rs. 12.45 crores worth of these products to foreign countries in the year 1967-68. In case this lacuna is removed, the export can increase manifolds. which will bring in considerable foreign exchange.

Since under Article 246 of the Constitution of India (Seventh Schedule) import and export of livestock across custom frontiers fall in list I - Union List, vide item 41, it is the responsibility of the Central Government to make suitable legislation to regulate export of livestock and livestock products and hence the proposed Act.

An Act to provide for the regulation of the exportation of Livestock and Livestock Products.

WHEREAS it is expedient to provide for the regulation of the exportation of livestock and livestock products which are liable to be affected by infectious or contagious disorders or exposed thereto, it is hereby enacted as follows:-

I. (1) This Act may be called the LIVESTOCK EXPORATION ACT, 1971.

(2) It extends to the whole of India.

II. DEFINITION:

(a) In this Act unless there is anything repugnant in the subject or contract, the expression " Infectious" or " Contagious" disorders include rinderpest, foot and mouth disease, glanders or any other disease or disorder which may be specified by the Central Government by notification in the Official Gazette;

(b) " Livestock includes horses, cattle, buffaloes, camels, sheep, goats, poultry and any other animal which may be specified by the Central Governmental by notification in the Official Gazette;

(c) "Livestock Products" include meat, hides, skins, bones, horns, wool, animal casings, eggs or any other product specified by the Central Government by notification in the Official Gazette; and

(d) " Export" means sending or despatch beyond customfrontiers of India.

III. POWER TO REGULATE EXPORTATION:

1. The Central Government may by notification in the Official Gazette; regulate, restrict or prohibit in such a manner and to such an extent as it may deem fit, the export, outside the territories to which this Act extends or any specified place therein, of any livestock or livestock products which may be liable to be affected or of fodder, dung, stable litter, clothing , harness or fittings, and packing pertaining to livestock or livestock products that may have been in contact therewith;
2. A notification under sub-section, shall operate as if it had been issued under Section 19 of the Sea Customs Act, 1878 (VIII of 1878) and the officers of the Customs at every port shall have the same powers in respect of any livestock or livestock products with regard to the exportation of which such a notification has been issued

and the enactment for the time being in force relating to Sea Customs Act or any such articles or the carrier shall apply accordingly.

IV. POWERS FOR CENTRAL GOVERNMENT TO MAKE RULES:

(a) The Secretary, Agriculture, in Ministry of Food, Agriculture, Community Development & Cooperation (Department of Agriculture) may make rules for the detention of the livestock or livestock products meant for export and fodder, dung, stable litter, clothing harness or fittings and containers pertaining to livestock or livestock products to be exported or that may have been in contact therewith and for regulating the powers and duties of the officers whom he may appoint in this behalf;

(b) In making any rules under this section, Secretary Agriculture, in the Ministry of Food, Agri. C.D. and Co-operation (Department of Agriculture) may direct that a breach thereof shall be punishable with fine which may extend upto Rs. 1000/- in each case.

V. PROTECTION TO PERSONS ACTING UNDER THIS ACT.

No suit, prosecution or other legal proceedings shall lie against any persons for anything in good faith done or intended to be done under this act.